



NORTH DAKOTA

Digital Equity Plan



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Broadband for All, Broadband for LifeSM

1 Executive Summary

“Broadband opportunities need to focus on equity – equity in access, equity in speeds, equity in costs – more equity across the board”

-Rural Economic Development Focus Group

Background

Although 97% of North Dakota has access to broadband service, this statistic does not tell the full story of broadband access and digital equity in the state. Certain groups have been left behind with the continued digitization of today’s economy. These groups, referred to as “covered populations” in the Digital Equity Act, face unique challenges related to internet accessibility, affordability, navigation, and digital skills.¹ According to the National Telecommunications and Information Administration (NTIA), 74% of North Dakotans belong to at least one of the covered populations and are most impacted by the digital divide.² These impacts extend far beyond the inability to use and navigate

the internet. Digital exclusion can have reverberating consequences for North Dakotans, depriving underrepresented groups the lifelong civic, employment, economic, health, and educational opportunities that are needed for full participation in modern society. The State will need to address this digital divide to ensure that all North Dakotans can equally benefit from universal coverage and take advantage of the opportunities that come with internet use.

The digital divide has been linked to negative social, employment, and health outcomes. What exactly are the impacts of this digital divide and how do they manifest in North Dakota? According to stakeholders, members of the aging population struggle to access telehealth offerings, leaving them vulnerable to preventable health complications. Lower-income North Dakotans and those in rural regions face challenges associated with internet affordability and are less likely to purchase an internet subscription. This

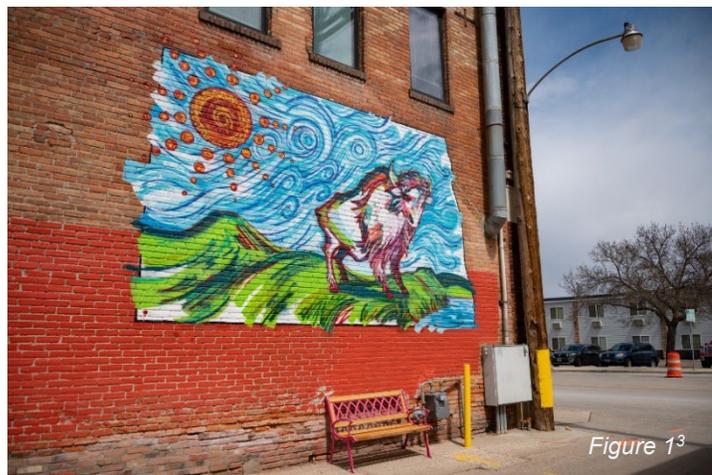


Figure 1³

¹ Covered populations include: 1. Individuals living in households that have incomes at or below 150% of the Federal Poverty Level; 2. Incarcerated individuals; 3. Individuals with disabilities; 4. Individuals who are members of a racial or ethnic minority group; 5. Aging individuals; 6. Veterans; 7. Individuals with a language barrier; 8. Individuals who primarily reside in a rural area.

² U.S. Census Bureau and National Telecommunications and Information Administration (accessed on May 22, 2023), Digital Equity Act Population Viewer. Accessed at: <https://mtgis-portal.geo.census.gov/arcgis/apps/MapSeries/index.html?appid=a0013a9dcbb9419e855f563d78e892ef>.

³ North Dakota Media Library (accessed on July 13, 2023), Jamestown 1st Ave. Accessed at: <https://www.medialibrary.nd.gov/assetbank-nd/action/viewAsset?id=100352>.

renders high-quality, high-paying remote job opportunities inaccessible. North Dakotans who lack basic digital skills are unable to connect with friends and family online. Absent any intervention, the digital divide will continue to widen, resulting in social and economic stratification.

The Digital Equity Act has made available \$2.75 billion to establish three grant programs that promote digital equity. Through the Digital Equity Planning Grant, North Dakota has developed this Digital Equity Plan that aims to make progress towards North Dakotans having the skills, resources, and knowledge needed to benefit from today's digital economy. This has given the State the transformational opportunity to foster a more inclusive digital environment – one that leaves no North Dakotan behind. The time is now to empower all North Dakotans with equitable, reliable, high-speed internet access.



Where we are

While universal access to high-speed, reliable internet service is an important precursor for digital equity, addressing the digital divide will require more than just deploying the necessary broadband infrastructure. Digital equity efforts must also aim to address issues related to internet affordability, device access, online security, digital skills, and more. While 97%⁵ of the state has access to broadband service, 84%⁶ of households have an internet subscription – an important indicator of digital access.⁷ Of the 267,000 North Dakotan households that still lack a broadband subscription, certain groups are more heavily impacted, including low-income individuals and aging populations. A robust stakeholder engagement process, desktop research, and data analysis indicates that key factors contributing to the state's digital divide include:

- **Inequitable Access to Infrastructure:** Without the necessary infrastructure, certain areas of the state do not have access to the internet at all. Western parts of the state have a higher number of unserved and underserved locations, particularly in counties that overlap with Tribal Lands. 18% of locations on the Tribal Lands in the Northwestern region of the state are unserved or underserved, compared with only 3% of locations statewide.

⁴ North Dakota Media Library (accessed on July 13, 2023), International Peace Gardens. Accessed at: <https://www.medialibrary.nd.gov/assetbank-nd/action/viewAsset?id=88678&index=18&total=583&view=viewSearchItem>.

⁵ Federal Communications Commission (published on December 31, 2022), FCC BDC National Broadband Map. Accessed at: <https://broadbandmap.fcc.gov/data-download/nationwide-data?version=jun2022>.

⁶ United States Census American Community Survey (published in 2021), Selected Social Characteristics 2021 5-Year Estimates. Accessed

⁷ *This comparison involves two different data sources. The percentage of locations that have access to broadband service pulls data from the Federal Communications Commission whereas the percentage of households that have an internet subscription utilizes United States Census American Community Survey data.*

- **Cost of Subscriptions:** The cost of broadband subscriptions presents a significant barrier to digital equity throughout North Dakota. In many cases, broadband services can be expensive, especially for North Dakotan households with limited financial resources. While the Affordable Connectivity Program (ACP) exists to offer discounts to qualifying households, North Dakota’s ACP enrollment rate of 11% is well below the national average (34%), based on Education SuperHighway estimates.⁸
- **Limited Digital Skills:** It remains critical to ensure North Dakotans – especially covered populations – possess the requisite skills to effectively use and benefit from broadband services. Limited digital skills hinder broadband adoption by impeding individuals’ understanding of technology. According to research conducted by the Department of Commerce, 85% of Workforce Center respondents agree that most North Dakotans using the services offered in the Workforce Centers lack digital skills.⁹ This results in hesitancy and lack of confidence with respect to using digital tools and ultimately affects access to and utilization of critical online resources (e.g., education, ecommerce, and telehealth offerings).
- **Digital Reluctance:** 4.5 billion cyberattacks take place in North Dakota annually.¹⁰ Certain populations, such as aging individuals, perceive cybersecurity threats to be greater and are more skeptical of the internet. This can lead to less effective internet use or discourage internet use altogether, particularly if individuals are unaware of the benefits that digital opportunities can provide.

The impacts of digital exclusion are far-reaching. In North Dakota, individuals who face the digital equity challenges described above are unable to achieve meaningful connectivity and unlock telehealth offerings, remote job opportunities, virtual educational and training resources, and more. While the digital divide poses a significant challenge to broadband expansion and digital equity efforts, solutions exist. For North Dakota, a tailored approach will be required to address its unique challenges contributing to the digital divide.

Where we’re headed

While stakeholders hold diverse perspectives on what is needed to help North Dakota bridge the digital divide, one thing is clear – access to and the ability to use the internet is a requirement for full participation in modern society. As one stakeholder stated, *“It is important for us to recognize broadband as a necessity, rather than a want.”* This perspective corroborates the findings of the State’s Digital Equity Plan, which emphasizes the importance of meaningful connections to unlock educational, social, health, economic, financial, and civic opportunities, not just for today, but for generations to come. This is the crux of North Dakota’s vision for digital equity – to “empower every North Dakotan, from our urban centers to the most remote regions of our state, with equitable digital access to be engaged with the opportunities of tomorrow.”

The State will strive to achieve this vision by implementing specific strategies and activities that address the aforementioned challenges. These planned initiatives can broadly be summarized by the following key themes:

⁸ Education SuperHighway (accessed on May 9, 2023), Affordable Connectivity Program Enrollment Dashboard. Accessed at: <https://www.educationsuperhighway.org/no-home-left-offline/acp-data/>.

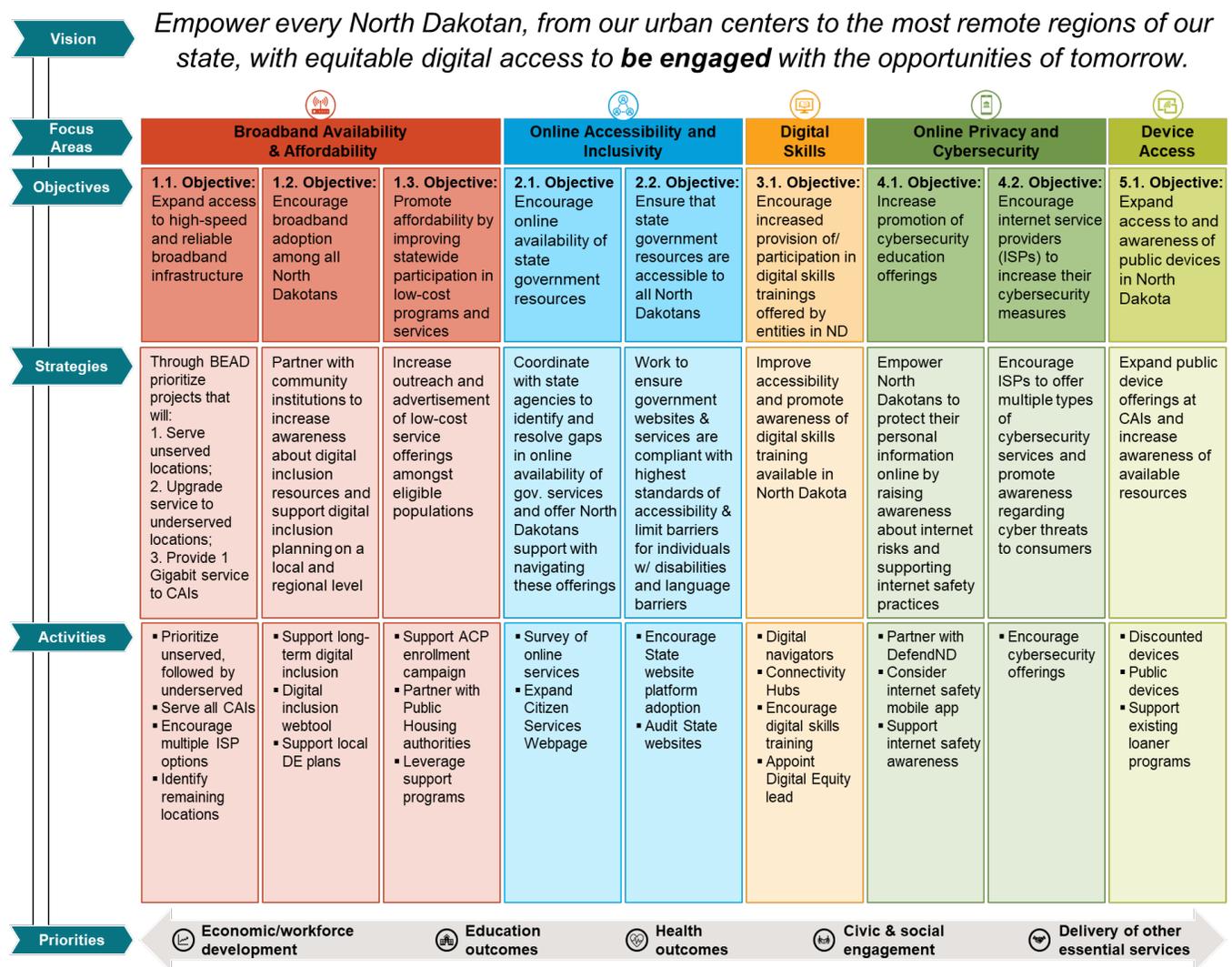
⁹ North Dakota Department of Commerce (published in August 2022), North Dakota Fundamental Digital Literacy Research and Recommendations. Accessed at: <https://www.medialibrary.nd.gov/assetbank-nd/assetfile/121546.pdf>.

¹⁰ Grand Forks Herald (accessed on July 18, 2023), How a new program founded in North Dakota protects 60 million Americans from cyber attacks. Accessed at: <https://www.grandforksherald.com/news/north-dakota/how-a-new-program-founded-in-north-dakota-protects-60-million-americans-from-cyber-attacks>.

- Promote broadband access and affordability;
- Increase accessibility and inclusivity of online resources;
- Improve access and awareness of digital skills offerings;
- Improve cybersecurity measures;
- Increase awareness of public device offerings.

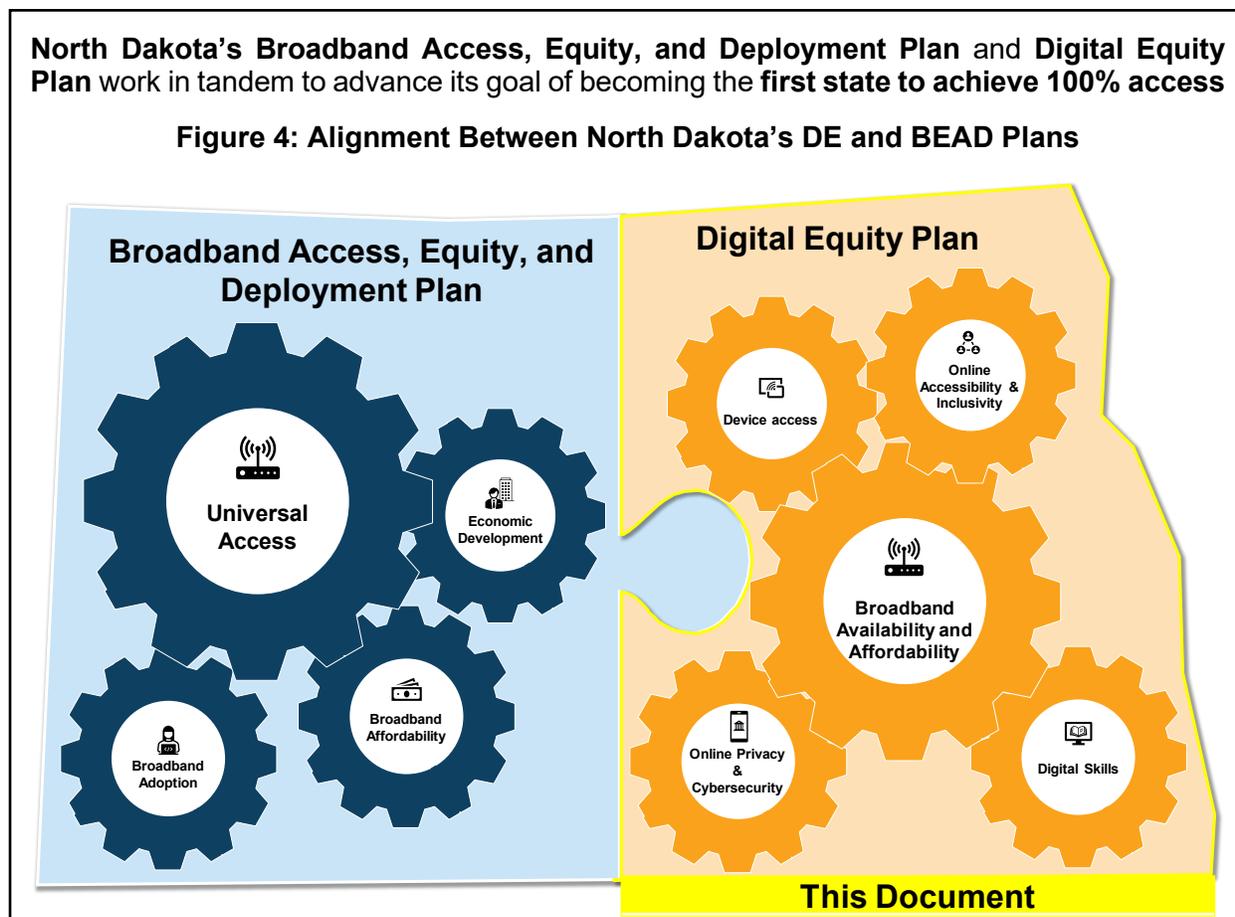
This Plan’s strategies and corresponding activities detailed in **Figure 3** are the tactical steps that North Dakota will take to deliver on its vision for digital equity using funds provided to the State through the State Digital Equity Capacity Grant Program.

Figure 3: North Dakota Digital Equity Strategic Framework



North Dakota’s digital equity efforts do not exist in a vacuum. Instead, they have far-reaching consequences that impact both the State’s overall broadband efforts and the State’s policy goals outside of broadband-related initiatives. This Digital Equity Plan complements and builds upon the State’s BEAD Five-Year Action Plan, which outlines the State’s priorities for broadband

deployment and digital inclusion efforts. While the BEAD Five-Year Action Plan emphasizes the importance of deploying the necessary broadband infrastructure to achieve 100% coverage statewide, both Plans acknowledge the significance of addressing digital inclusion challenges to allow all North Dakotans to equitably participate in the digital economy. This alignment between the State’s BEAD and DE Plans is depicted in **Figure 4** below. Although North Dakota’s covered populations face multiple barriers to digital equity, the State has a unique opportunity through this Plan to address those barriers and, in turn, give these individuals access to the benefits of being connected to the digital economy.



A Call to Action

North Dakota’s digital equity planning process is much like an orchestra: Digital inclusion efforts necessitate a collective, harmonious approach between local, state, Tribal, and municipal bodies, utilities, ISPs, workforce development organizations, training providers, and others to unpack and tackle this dynamic challenge. This multi-stakeholder approach will prove instrumental in advancing the State’s longer-term digital equity efforts and ensuring the longevity of these programs. This collaborative approach will pave the way for sustained investment and co-ownership of digital equity initiatives long after funding made available through the Digital Equity Act has been spent. Because the challenge of the digital divide in North Dakota is a function of many moving pieces, ranging from accessibility constraints to disparities in digital skills to affordability concerns, and much more, the required solution must, in turn, mirror this level of

complexity. The State's digital equity strategy demonstrates a commitment to the longer-term sustainability of planned programs and activities. The State Broadband Program Office is excited to serve as the conductor for this important endeavor, bringing together diverse groups while simultaneously allowing for the congruence of digital inclusion efforts. This coordination will prove instrumental in North Dakota's pursuit to secure *broadband for all, broadband for life*SM.

2 Introduction and Vision for Digital Equity

2.1 Vision

North Dakota is a state with vibrant, diverse communities spread out across wide open spaces that span from the Red River Valley in the east to the Badlands in the west. While individuals may be spread out across the state's vast prairies, the funding made available through the Infrastructure Investment and Jobs Act (IIJA) for digital equity has provided the transformational opportunity for more North Dakotans to be connected. The State's priorities detailed within this Plan will build upon previous efforts to connect all North Dakotans to broadband by seeking to ensure that all individuals, regardless of location, income, or background, have the access and skillset required to use the internet effectively.

North Dakota's Vision for Digital Equity:

*Empower every North Dakotan, from our urban centers to the most remote regions of our state, with equitable digital access to **be engaged** with the opportunities of tomorrow.*

Digital equity in the context of North Dakota is defined as every individual having broadband access, devices to use the internet, and the skills necessary to stay connected. In order to achieve success with respect to digital inclusion, North Dakota will deploy broadband throughout the state and address the many challenges that North Dakotans face with respect to accessing and using the internet. These hurdles include a lack of affordable options, digital skills, or user-friendly interfaces, among others.

North Dakota's vision for digital equity is supported and enhanced by the vision and goals of the BEAD Program. Through the BEAD Program, the State will create a strong backbone for digital equity by building a network that enables all North Dakotans with affordable, reliable, high-speed internet to connect with the opportunities of tomorrow. The DE Program will advance the BEAD vision by enabling all North Dakotans with access to devices and digital skills necessary to take advantage of the digital world.

In order to accomplish the Plan's vision, the State has established 9 measurable objectives that are explained in greater detail in **Section 2.3.1**. These objectives address the five focus areas identified in the State Digital Equity Planning Grant Program Notice of Funding Opportunity (DE NOFO) – broadband availability and affordability, online accessibility and inclusivity, digital skills, online privacy and cybersecurity, and device access. Each of these objectives also impacts a number of the State's overarching policy initiatives that have been prioritized by Governor Burgum (see **Section 2.2.3** for more information about how these objectives interact with those initiatives). **Figure 5** below provides an overview of these objectives and the focus areas that they address.

Figure 5: North Dakota’s Vision and Measurable Objectives for Digital Equity



2.2 Alignment with Existing Efforts to Improve Outcomes

2.2.1 Incorporation of Existing Municipal, Regional, and/or Tribal Digital Equity Plans

As explained in **Section 3.1.2** below, North Dakota did not identify any existing digital equity plans instituted by municipal or regional governments or Tribal Governments in the state while compiling the asset inventory for this Plan.

2.2.2 Coordination with Other Funding Sources for Digital Equity

In recent years, North Dakota has received several sources of funding, encompassing large federal grants provided to the State and smaller grants awarded to organizations with the purpose of promoting broadband deployment and adoption. North Dakota intends to use funds from the State Digital Equity Capacity Grant Program to complement and support existing broadband and digital equity efforts within the state. The discussion below provides a summary of recent broadband funding in North Dakota and is divided into four different categories based on the use of the funds.

Broadband Deployment Funding

Widespread broadband availability is an important pre-requisite for most of the objectives outlined in **Section 2.3** below. Without high-speed and reliable broadband coverage for all North Dakotans, the Digital Equity objectives related to broadband availability and affordability, online accessibility and inclusivity, digital skills, online privacy and cybersecurity and device availability and affordability cannot be effectively accomplished. The seven funding sources identified below focus on deploying broadband to unserved and underserved locations¹¹ in North Dakota.

¹¹ *Unserved locations are defined as those without access to broadband at speeds of 25/3 Mbps and underserved locations are defined as those without access to broadband at speeds of 100/20 Mbps.*

1. *Broadband Equity, Access, and Deployment Program (BEAD)*:¹² The BEAD Program will make available approximately \$130.2 million¹³ in funding to expand high-speed internet access and promote broadband in North Dakota. In accordance with NTIA guidance, North Dakota will prioritize the use of BEAD funds to connect all unserved and underserved locations with broadband service at minimum speeds of 100/20 Megabits per second (Mbps). The subsequent priority for allocating BEAD funds will be to serve all Community Anchor Institutions (CAIs) in North Dakota with internet service at symmetrical speeds of 1 Gigabit per second (Gbps). After the two highest priorities have been met, remaining BEAD funds will be directed towards supporting the digital equity focused goals identified in North Dakota's Five-Year Action Plan. These goals, which include *Increasing Broadband Adoption, Promoting Broadband Affordability* and *Supporting Economic Growth*, directly align with several of the objectives in the Digital Equity Plan.
2. *American Rescue Plan Act Capital Projects Fund (CPF)*:¹⁴ The CPF program made available \$37 million to connect unserved and underserved locations with high-speed and reliable broadband infrastructure. Through CPF funding, broadband projects across North Dakota will provide 100 Mbps symmetrical service to households and businesses. Additionally, all internet service providers (ISPs) that receive funding through CPF will be required to participate in ACP. The CPF funds will support Digital Equity Plan objectives by increasing broadband coverage and promoting broadband affordability.
3. *Tribal Broadband Connectivity Program*:¹⁵ Standing Rock Telecommunications, a local ISP providing service to the Standing Rock Sioux Tribe and surrounding communities, received \$8.6 million through the Tribal Broadband Connectivity Program to provide 100 unserved households in Fort Yates, North Dakota with fixed wireless service at 50/10 Mbps.¹⁶ Tribal Broadband Connectivity Program funding will support the Digital Equity Plan's focus on closing the digital divide among vulnerable populations by increasing broadband coverage in Tribal communities.
4. *United States Department of Agriculture (USDA) ReConnect Grants*:^{17, 18, 19} The USDA ReConnect Program, through three rounds of funding, made available close to \$107 million in funds to several ISPs in North Dakota. The funding rounds were held in 2019,

¹² BroadbandUSA (published on December 8, 2023), Biden-Harris Administration Awards More Than \$5.5 Million to North Dakota in 'Internet for All' Planning Grants. Accessed at: <https://broadbandusa.ntia.doc.gov/news/latest-news/biden-harris-administration-awards-more-55-million-north-dakota-internet-all#:~:text=North%20Dakota%20will%20receive%20%24516%2C380,and%20stakeholders%20in%20plan%20development>.

¹³ Internet for All (accessed on July 31, 2023), Funding by State/Territory. Accessed at: https://internetforall.gov/funding-recipients?program_status=0&state=ND&form_build_id=form-ssUBZfpD1q2UEhMZtN_1lqAEIDoQ3z6AiUbFMRfit_c&form_id=ntia_interactive_map_state_and_program_selection.

¹⁴ United States Department of the Treasury (accessed on May 4, 2023), Capital Projects Fund Award Fact Sheet North Dakota. Accessed at: <https://home.treasury.gov/system/files/136/state-Award-Fact-Sheet-ND-Aug-2022.pdf>.

¹⁵ National Telecommunications and Information Administration (accessed on May 5, 2023), Tribal Broadband Connectivity Program Award Recipients. Accessed at: <https://broadbandusa.ntia.doc.gov/tribal-broadband-connectivity-program-awardees#S>.

¹⁶ *It is important to note that 50/20 Mbps service is considered underserved by the BEAD Program.*

¹⁷ United States Department of Agriculture (accessed on May 11, 2023), ReConnect Program FY 2019 Funding Opportunity Announcement Awardees. Accessed at: <https://www.usda.gov/reconnect/round-one-awardees>.

¹⁸ United States Department of Agriculture (accessed on May 11, 2023), ReConnect Program FY 2020 Funding Opportunity Announcement Awardees. Accessed at: <https://www.usda.gov/reconnect/round-two-awardees>.

¹⁹ United States Department of Agriculture (accessed on May 11, 2023), ReConnect Program FY 2022 Funding Opportunity Announcement Awardees. Accessed at: <https://www.usda.gov/reconnect/round-three-awardees>.

2020, and 2022 and will support the buildout of high-speed and reliable internet infrastructure to a total of 10,846 households in the state.

5. *Connect America Fund*:²⁰ Through this fund, two ISPs received \$7.2 million to provide 1,603 locations in North Dakota with access to high-speed internet service at 100 Mbps download speeds.
6. *Rural Digital Opportunity Fund (RDOF)*:²¹ The RDOF program allocated funding to seven ISPs in North Dakota for the purpose of providing unserved locations with access to high-speed internet service at 100/20 Mbps speeds.
7. *National Tribal Broadband Grant 2020*:²² The Spirit Lake Nation (Tribal Entity) received \$50,000 to study the feasibility of developing or extending broadband service in Tribal Lands.

Broadband Adoption and Affordability Funding

Encouraging broadband adoption and affordability is a key focus area in North Dakota's Digital Equity Plan. American Community Survey data shows that close to 50,000 households in North Dakota do not have a broadband subscription of any kind.²³ Stakeholder engagement conducted during this Plan's development sheds light on potential reasons for lack of broadband adoption, including affordability challenges, especially among covered populations as well as general intimidation or fear of using the internet. Addressing barriers to broadband adoption is a key goal for the State given the economic, employment, and social opportunities that come with internet use.²⁴

Certain organizations in North Dakota, including schools and libraries, have received funding in the past to support broadband adoption and affordability related initiatives. The objectives in this Plan will advance prior work done through broadband adoption and affordability funding. The prior funding sources are outlined in more detail below.

1. *ACP Outreach Grant*:²⁵ The Community Action Partnership of North Dakota and the University of North Dakota received \$800,000, in total, to increase ACP enrollment in North Dakota. The goal of this grant is to facilitate the marketing and awareness of the ACP program among eligible households in North Dakota.

²⁰ Federal Communications Commission (published on August 28, 2018), FCC Connect America Fund Phase II Auction. Accessed at: <https://docs.fcc.gov/public/attachments/DA-18-887A2.pdf>.

²¹ Federal Communications Commission (published on December 7, 2020), FCC Rural Digital Opportunity Fund Phase I Auction. Accessed at: <https://docs.fcc.gov/public/attachments/DA-20-1422A2.pdf>.

²² United States Department of Indian Affairs (published on August 13, 2020), Trump Administration Invests \$1.2 Million in Tribal Broadband Grants. Accessed at: <https://www.bia.gov/as-ia/opa/online-press-release/trump-administration-invests-12-million-tribal-broadband-grants>.

²³ United States Census American Community Survey (published in 2021), Selected Social Characteristics 2021 5-Year Estimates. Accessed at: https://data.census.gov/table?q=DP02&q=040XX00US38&tid=ACSDP5Y2021_DP02.

²⁴ The Brookings Institution (published in August 2019), Broadband is too important for this many in the US to be disconnected. Accessed at: <https://www.brookings.edu/blog/the-avenue/2019/08/14/broadband-is-too-important-for-this-many-in-the-us-to-be-disconnected/>.

²⁵ Federal Communications Commission (accessed on May 11, 2023), Consumer and Governmental Affairs Bureau Announces ACP Outreach Grant Program Target Funding. Accessed at: <https://docs.fcc.gov/public/attachments/DA-23-194A1.pdf>.

2. *E-Rate Program*:²⁶ This program provides discounts totaling \$1.2 million to 37 schools and school districts for internet service, telecommunications services, and related equipment.

Broadband Access Funding

Ensuring that all North Dakotans have the devices and equipment needed to access the internet, is another key focus area of the Digital Equity Plan. Several stakeholders have mentioned that cost is a barrier to device ownership for certain populations, including low-income individuals, aging individuals, individuals with disabilities, and those living in rural areas. Additionally, stakeholders communicated that members of the aging population often had outdated devices that were not conducive to utilizing the internet adequately. Several organizations in North Dakota have received funding to increase device accessibility in the state. These funding sources are outlined in more detail below.

1. *Tribal Broadband Connectivity Program*:²⁷ This program made available \$1.8 million to the Sisseton Wahpeton Oyate of the Lake Traverse Reservation for providing broadband equipment, including computers for 750 students to support distance learning, purchasing equipment for households and CAIs on Tribal Lands, and subsidizing broadband service for approximately 700 Tribal members.
2. *Connected Care Pilot*:²⁸ This program allocated \$6.2 million in funds to the Catholic Health Initiative to cover eligible costs of broadband connectivity, network equipment, and information services that are necessary to provide connected care services to the intended patient population in North Dakota as well as Arkansas, Iowa, Kentucky, Minnesota, and Nebraska.
3. *Emergency Connectivity Fund*:²⁹ This program made available to North Dakota \$4.3 million in funding to support schools and libraries with providing the tools and services needed for remote learning during the COVID-19 emergency period.

Digital Skills Funding

Equipping North Dakotans with the digital skills needed to participate in the digital economy of the 21st century is an important objective of the Digital Equity Plan. Research by The National Digital Inclusion Alliance found that, in 2021, 33% of unemployed individuals in North Dakota lacked the essential digital skills which were required by 73% of open jobs.³⁰ Additionally over eleven stakeholder groups mentioned that a lack of digital skills exists for many covered populations, especially among aging individuals. Through the Digital Equity Plan, North Dakota aims to advance digital skills within the state and further support existing digital skills initiatives. The United Tribes Technical College in North Dakota received funding to promote career and education training for its students. This funding source is outlined in greater detail below.

²⁶ Universal Service Administrative Company (accessed on July 18, 2023), E-Rate Search Commitments Tool. Accessed at: <https://opendata.usac.org/stories/s/jj4v-cm5x>.

²⁷ National Telecommunications and Information Administration (accessed on May 5, 2023), Tribal Broadband Connectivity Program Award Recipients. Accessed at: <https://broadbandusa.ntia.doc.gov/tribal-broadband-connectivity-program-awardees#S>.

²⁸ Federal Communications Commission (accessed on May 11, 2023), Connected Care Pilot Program Selection List. Accessed at: https://www.fcc.gov/sites/default/files/ccpp-selection-list_03.16.2022.pdf.

²⁹ Federal Communications Commission (accessed on July 13, 2023), Emergency Connectivity Fund. Accessed at: <https://www.fcc.gov/emergency-connectivity-fund>.

³⁰ National Digital Inclusion Alliance (accessed on May 23, 2023), State Digital Equity Scorecard – North Dakota. Accessed at: https://state-scorecard.digitalinclusion.org/scorecard/by_state/ND.

1. *Tribally Controlled Postsecondary Career and Technical Institutions Program*:³¹ The United Tribes Technical College received \$7.1 million in funding to offer Career and Technical Education (CTE) training for 900 Native American and Alaska Native students with the goal of preparing students for higher education and careers in high-skill, high-wage or high-demand industry sectors or occupations.

2.2.3 Impact and interaction with the State’s Broader Goals and Efforts

In comprehensively addressing the needs of North Dakotans for accessing and using the internet through this Plan, North Dakota will also impact the State’s efforts in multiple policy areas. The following discussion details how the Plan’s measurable objectives (see **Section 2.3.1** below) impact and interact with the State’s broader goals and efforts in five specific policy areas outlined in the DE NOFO.

Economic and workforce development goals, plans, and outcomes

North Dakota has four major urban areas in the state (Bismarck, Dickinson, Fargo, and Grand Forks), but the vast majority of its municipalities are located in rural communities, defined as the population living outside of cities and towns with more than 20,000 residents.³² Through Governor Burgum’s Main Street initiative, the State is promoting economic growth in these communities by helping them capitalize on their unique characteristics. This initiative has four pillars:

- Healthy, Vibrant Communities – creating “21st-century cities with vibrant cores to help attract and retain talent;”³³
- 21st Century Workforce – developing skills relevant to today’s economy, including industries such as biotech and cybersecurity;³⁴
- Smart, Efficient Infrastructure – creating “mixed-use city centers and neighborhoods” in order to maximize existing infrastructure;³⁵
- Economic Diversification – supporting a diverse North Dakota economy through each community’s “unique benefits and existing infrastructure.”³⁶

Thus far, communities representing more than half a million North Dakotans are engaged in one or more of these four pillars, and participation in the initiative continues to grow.³⁷

Educational outcomes

Through Governor Burgum’s Transforming Education initiative, the State is equipping its students with the “skills and mindsets they need to be creative problem solvers, effective communicators

³¹ United States Department of Education (accessed on May 15, 2023), Perkins Collaborative Resource Network. Accessed at: <https://cte.ed.gov/grants/tribally-controlled-postsecondary-career-and-technical-institutions-program>.

³² United States Census (accessed on August 11, 2023), 2019 Total Covered Populations Under the Digital Equity Act. Accessed at: https://www2.census.gov/programs-surveys/demo/technical-documentation/community-resilience/total_covered_populations_quick_guide.pdf

³³ State of North Dakota (accessed on June 20, 2023), Healthy, Vibrant Communities. Accessed at: <https://www.nd.gov/living-nd/main-street-nd/healthy-vibrant-communities>.

³⁴ State of North Dakota (accessed on June 20, 2023), 21st Century Workforce. Accessed at: <https://www.nd.gov/doing-business-nd/21st-century-workforce>.

³⁵ State of North Dakota (accessed on June 20, 2023), Smart Efficient Infrastructure. Accessed at: <https://www.nd.gov/living-nd/main-street-nd/smart-efficient-infrastructure>.

³⁶ State of North Dakota (accessed on June 20, 2023), Economic Diversification. Accessed at: <https://www.nd.gov/living-nd/main-street-nd/economic-diversification>.

³⁷ State of North Dakota (accessed on June 22, 2023), Five Strategic Initiatives for North Dakota. Accessed at: <https://www.governor.nd.gov/five-strategic-initiatives-north-dakota>.

and informed, responsible citizens who are strong collaborators.” Thus far, through this initiative, the State has undertaken the following efforts:

- Made recommendations on how to ensure the state’s education system excels in the 21st century;
- Hosted a statewide Hour of Code event to encourage the development of computer science among North Dakota’s students;
- Announced a planned 100-gigabit upgrade to the state network.³⁸

Health outcomes

North Dakota is particularly focused on the behavioral health of individuals throughout the state. Governor Burgum, in partnership with the North Dakota Department of Human Services’ Behavioral Health Division, is pursuing the following key strategies as part of his Behavioral Health and Addiction Initiative:

- Supporting the full continuum of care;
- Embedding services close to home and people’s natural supports to keep families together;
- Stopping criminal behavior and diverting criminal justice involvement.³⁹

Civic and social engagement

Under Governor Burgum’s leadership, North Dakota has undertaken two initiatives that strive to promote greater civic and social engagement. First, through the Governor’s Reinventing Government initiative, the State is examining how North Dakotans interact with State government and prioritizing embracing technology to make needed changes, including using technology to embrace government transparency.⁴⁰ Additionally, the State is identifying opportunities for collaboration between State government and the governments of Tribal Entities located in North Dakota through the Governor’s Tribal Engagement initiative.⁴¹

Delivery of other essential services

Governor Burgum’s Reinventing Government initiative (described above) also embraces technology to make changes to State government with respect to the delivery of other services. As explained on the website highlighting the Governor’s strategic initiatives for the state, “powerful technological forces are fueling an underlying change in our economy and will challenge all of our existing approaches, systems and institutions.”⁴²

³⁸ State of North Dakota (accessed on June 20, 2023), Five Strategic Initiatives for North Dakota. Accessed at: <https://www.governor.nd.gov/five-strategic-initiatives-north-dakota>.

³⁹ State of North Dakota (accessed on June 20, 2023), Five Strategic Initiatives for North Dakota. Accessed at: <https://www.governor.nd.gov/five-strategic-initiatives-north-dakota>.

⁴⁰ State of North Dakota (accessed on June 20, 2023), Five Strategic Initiatives for North Dakota. Accessed at: <https://www.governor.nd.gov/five-strategic-initiatives-north-dakota>.

⁴¹ State of North Dakota (accessed on June 20, 2023), Five Strategic Initiatives for North Dakota. Accessed at: <https://www.governor.nd.gov/five-strategic-initiatives-north-dakota>.

⁴² State of North Dakota (accessed on June 20, 2023), Five Strategic Initiatives for North Dakota. Accessed at: <https://www.governor.nd.gov/five-strategic-initiatives-north-dakota>.

The table below (**Table 1**) links the measurable objectives with the aforementioned policy and priority areas. Each policy area is explicitly called out in the DE NOFO and is addressed by Governor Burgum’s priorities for the state. Each policy impacts multiple measurable objectives.

Table 1: Policy Areas Impacted by Measurable Objectives

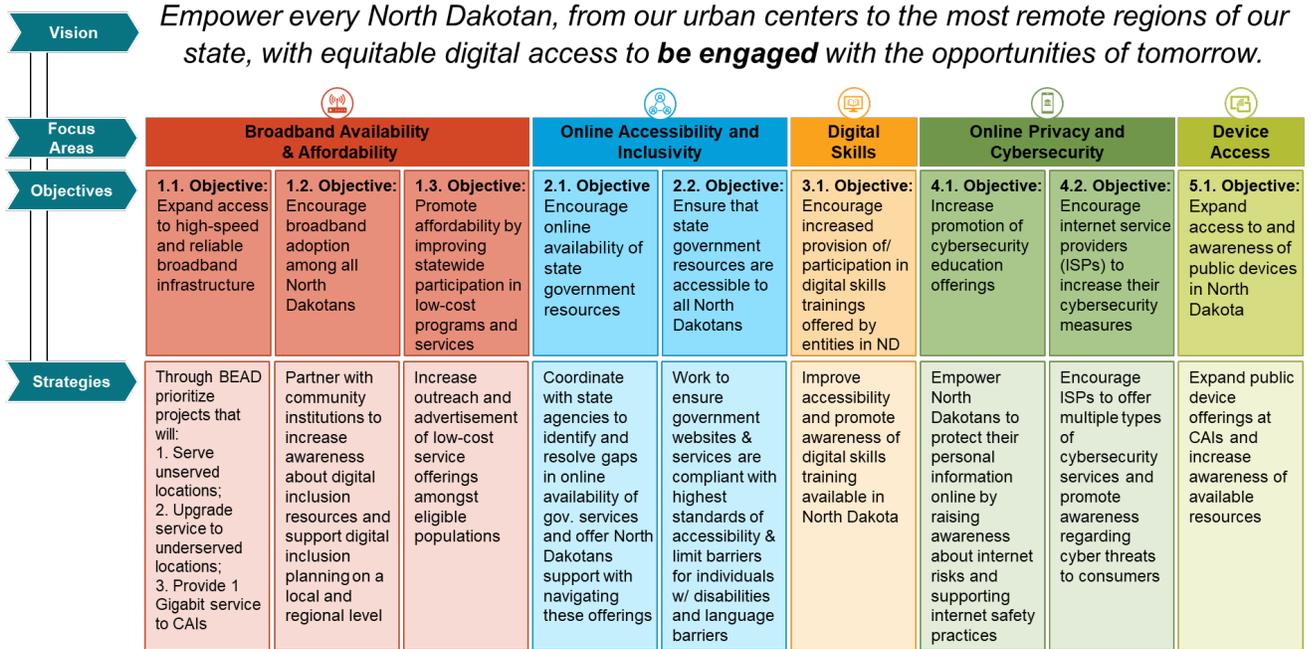
| Policy Area | Governor’s Priorities | Measurable Objective | | | | | | | | |
|--------------------------------------|---|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 1.1 | 1.2 | 1.3 | 2.1 | 2.2 | 3.1 | 4.1 | 4.2 | 5.1 |
| Delivery of other essential services | Reinventing Government | | | | X | X | | X | X | |
| Civic and community engagement | Tribal Engagement, Reinventing Government | X | X | X | X | X | X | | | |
| Health outcomes | Behavior Health and Addiction | X | X | X | X | X | X | X | X | X |
| Educational outcomes | Transforming Education | X | X | X | X | X | X | | | X |
| Economic and Workforce Development | Main Street | X | X | X | | | | X | | X |

2.3 Strategy and Objectives

This section outlines the measurable objectives that North Dakota will use to measure progress on the digital equity vision as laid out in **Section 2.1** above. The measurable objectives are broken into five categories: broadband availability and affordability, online accessibility and inclusivity, digital skills, online privacy and cybersecurity, and device availability and affordability.⁴³ Each measurable objective includes an associated Key Performance Indicator (KPI), a baseline measure, and a near-term and long-term target. Additionally, this section also describes the overarching strategies that North Dakota will implement to accomplish the measurable objectives laid out below. **Figure 6** provides an overview of the Plan’s measurable objectives and strategies.

⁴³ These categories were defined in the State Digital Equity Planning Grant NOFO.

Figure 6: North Dakota’s Vision, Measurable Objectives, and Strategies for Digital Equity



2.3.1 Objectives

North Dakota has identified 9 measurable objectives to assess its progress in achieving the Digital Equity Plan’s vision. These objectives, which are outlined in greater detail in **Table 3** below, support five key areas that impact and promote digital equity amongst all the covered populations in North Dakota. These objectives promote numerous digital equity measures, varying from expanded infrastructure to increased digital skills courses.

Table 2: Measurable Objectives with Associated KPIs and Targets

| NTIA Category | Objectives | Impacted Covered Populations | KPI | | | |
|--|--|---|---|--------------------------|--------------------------------------|------------------------------------|
| | | | Measure | Baseline | Near-term Target (3 years) | Long-term Target (5 years) |
| Broadband Availability and Affordability | 1.1 Expand access to high-speed and reliable broadband infrastructure | Low-income populations, racial and ethnic minorities, and rural populations | Percentage of locations with access to ≥100/20 Mbps download/ upload speeds | 97.2% ⁴⁴ | 99% ⁴⁵ within three years | 100% within five years |
| | 1.2 Encourage broadband adoption among all North Dakotans | Aging populations, individuals with disabilities, racial and ethnic minorities, and | Percentage of households with a broadband subscription | 84% of households with a | 87% of households with a broadband | 90% of households with a broadband |

⁴⁴ Federal Communications Commission (published on December 31, 2022), FCC National Broadband Map. Accessed at: <https://broadbandmap.fcc.gov/data-download/nationwide-data?version=jun2022>.

⁴⁵ The current short-term target is based on the required annual growth rate to reach the 100% served goal in five years.

| | | | | | | |
|--------------------------------------|---|---|--|---|---|---|
| | | rural populations | | broadband subscription ⁴⁶ | subscription ⁴⁷ within three years | subscription ⁴⁸ within five years |
| | 1.3 Promote affordability by improving statewide participation in low-cost programs and services | All covered populations | Statewide participation in Affordable Connectivity Program (ACP) | 11% ACP participation rate ⁴⁹ | 20% ACP participation rate within three years | 35% ACP participation rate within five years |
| Online Accessibility and Inclusivity | 2.1 Encourage online availability of State government resources | Aging populations, individuals with disabilities, and rural populations | Number of State government services that are offered online | 86 services available online ^{50,51} | 80% of State government services offered online within three years | 100% of State government services offered online within five years |
| | 2.2 Ensure that State government resources are accessible to all North Dakotans | Aging populations, individuals with disabilities, veterans, racial and ethnic minorities, and rural populations | Number of State government websites that meet the requirements of an accessibility audit | Baseline will be established during first year of implementation | At least 50% of government websites meeting the requirements of an accessibility audit within three years | Nearly 100% of government websites meeting the requirements of an accessibility audit within five years |
| Digital Skills | 3.1 Encourage increased provision of/participation in digital skills trainings offered by entities in North Dakota | Aging populations, individuals with disabilities, veterans, racial and ethnic minorities, and rural populations | Number of digital skills and awareness programs specifically supporting each covered population in the state | Identified digital skills and awareness programs for each covered population (see Section 3.1.1 for more details): <ul style="list-style-type: none"> - Low-income individuals – 0 programs - Aging – 6 programs - Incarcerated – 1 program - Individuals with a disability – 5 programs - Veterans – 0 programs | Provide at least one digital skills and awareness program to each covered population within three years | Provide a proportionate number of digital skills and awareness programs to each covered population in the state based on each population's size within five years |

⁴⁶ United States Census American Community Survey (published in 2021), Types of Computers and Internet Subscriptions 2021 5-Year Estimates. Accessed at: <https://data.census.gov/table?q=internet+subscription+band+computer+ownership&tid=ACSST5Y2021.S2801>.

⁴⁷ The 87% short-term target is based on the national broadband subscription rate identified using ACS data.

⁴⁸ The 90% long-term target is based on the average of the top 10 states with the highest broadband subscription rates.

⁴⁹ Education SuperHighway (accessed on May 9, 2023), Affordable Connectivity Program Enrollment Dashboard. Accessed at: <https://www.educationsuperhighway.org/no-home-left-offline/acp-data/>.

⁵⁰ Baseline includes number of government services offered through the Citizen Services webpage

⁵¹ EduTech North Dakota (accessed on August 19, 2023), North Dakota Citizen Skills for all. Accessed at: [Citizen Services | North Dakota State Government - ND Portal](#).

| | | | | | | |
|---------------------------------------|--|---|--|--|--|--|
| | | | | - Individuals with a language barrier or low literacy – 1 program - Racial or ethnic minorities – 1 program - Rural – 4 programs | | |
| | | Aging populations, individuals with disabilities, veterans, racial and ethnic minorities, and rural populations | Number of digital navigators in the statewide program | 0 digital navigators (no statewide program) | Within 3 years, establish a statewide digital navigator program that has at least 4 digital navigators (1 in each corner of the state) | Within 5 years, increase the number of digital navigators in the statewide digital navigator program to at least 1 for each economic development region in the state |
| Online Privacy and Cybersecurity | 4.1 Increase promotion of cybersecurity education offerings | Aging populations, incarcerated populations, individuals with disabilities, and rural populations | Number of individuals completing a cybersecurity course (Cisco training) offered as part of North Dakota Citizens Skills for All | Baseline to be established during first year of implementation ⁵² | 75% utilization rate within three years | 95% utilization rate with five years |
| | 4.2 Encourage internet service providers (ISPs) to increase their cybersecurity measures | Aging populations, incarcerated populations, individuals with disabilities, and rural populations | Percent of subrecipients that have adopted NIST's cybersecurity framework | Baseline to be established during first year of implementation ⁵³ | 100% of subrecipients adopting NIST's cybersecurity framework within three years | 100% of subrecipients adopting NIST's cybersecurity framework within five years |
| Device Availability and Affordability | 5.1 Expand access to and awareness of public devices in North Dakota | Low-income population, gaining populations, individuals with disabilities, veterans, and rural populations | Number of libraries offering public devices | 48 (50%) libraries offering public devices ⁵⁴ | 58 (60%) libraries offering public devices within three years | 62 (65%) libraries offering public devices within five years |

⁵² Note: This training has recently been developed and baseline utilization has yet to be established

⁵³ Note: Since this KPI is forward-looking, the baseline will be established within first year of implementation.

⁵⁴ Note: Computer labs were identified using public information on library websites. Identified libraries may have computer labs not advertised.

2.3.2 Strategies

North Dakota recognizes that its strategies for implementing this Plan will be instrumental not only in promoting digital equity in the state, but also in supporting the State's broader policy goals, specifically Governor Burgum's initiatives that are detailed in **Section 2.2.3**. The State has developed 9 total strategies, with each strategy corresponding to one of the State's 9 measurable objectives for digital equity (which are explained in **Section 2.3.1**). Each objective and corresponding strategy is listed in **Table 2** below. For more information about these strategies and the associated activities that are part of this Plan's implementation efforts, see **Section 5** below.

Additionally, **Table 2** indicates which policy areas are impacted by each measurable objective and corresponding strategy. For more information about how North Dakota's efforts in these policy areas will benefit from these measurable objectives, see the discussion in **Section 2.2.3** above.

Table 3: Measurable objectives, strategies, and associated policy area(s)

| Measurable Objective (detailed in Section 2.3.1) | Associated Strategy (detailed in Section 5) | Associated Policy Area(s) (detailed in Section 2.2.3) |
|--|--|--|
| Objective 1.1: Expand access to high-speed and reliable broadband infrastructure | Strategy 1.1: Through the administration of BEAD funds, prioritize projects that will extend service to unserved locations, upgrade service to underserved locations, and provide 1 Gigabit service to CAls. | <ul style="list-style-type: none"> • Economic and workforce development • Educational outcomes • Health outcomes • Civic and social engagement |
| Objective 1.2: Encourage broadband adoption among all North Dakotans | Strategy 1.2: Partner with community institutions to increase awareness about digital inclusion resources and support digital inclusion planning on a local and regional level. | <ul style="list-style-type: none"> • Economic and workforce development • Educational outcomes • Health outcomes • Civic and social engagement |
| Objective 1.3: Promote affordability by improving statewide participation in low-cost programs and services | Strategy 1.3: Increase outreach and advertisement of low-cost service offerings amongst eligible populations. | <ul style="list-style-type: none"> • Economic and workforce development • Educational outcomes • Health outcomes • Civic and social engagement |
| Objective 2.1: Encourage online availability of State government resources | Strategy 2.1: Coordinate with State agencies to identify and resolve gaps in online availability of government services and offer North Dakotans support to help them navigate these offerings. | <ul style="list-style-type: none"> • Educational outcomes • Health outcomes • Civic and social engagement • Delivery of other essential services |
| Objective 2.2: Ensure that State government resources are accessible to all North Dakotans | Strategy 2.2: Ensure government websites and services are compliant with the highest standards of online accessibility and limit barriers for individuals with disabilities and individuals with language barriers. | <ul style="list-style-type: none"> • Educational outcomes • Health outcomes • Civic and social engagement • Delivery of other essential services |
| Objective 3.1: Encourage increased provision of/participation in digital skills trainings offered by entities in North Dakota | Strategy 3.1: Improve accessibility and promote awareness of digital skills training available in North Dakota. | <ul style="list-style-type: none"> • Economic and workforce development • Educational outcomes • Health outcomes • Civic and social engagement |
| Objective 4.1: Increase promotion of cybersecurity education offerings | Strategy 4.1: Empower North Dakotans to protect their personal information online through raising awareness about internet risks and supporting better internet safety practices. | <ul style="list-style-type: none"> • Health outcomes • Delivery of other essential services |
| Objective 4.2: Encourage internet service providers (ISPs) to increase their cybersecurity measures | Strategy 4.2: Encourage ISPs to offer multiple types of cybersecurity services and promote awareness regarding cyber threats to customers. | <ul style="list-style-type: none"> • Health outcomes • Delivery of other essential services |
| Objective 5.1: Expand access to and awareness of public devices in North Dakota | Strategy 5.1: Expand public device offerings at CAls and increase awareness of available resources. | <ul style="list-style-type: none"> • Economic and workforce development • Educational outcomes • Health outcomes |

3 Current State of Digital Equity: Barriers and Assets

3.1 Asset Inventory

North Dakota has identified more than eighty assets that promote digital equity in the state. While many of these assets support one or more of the covered populations identified in the DE NOFO, more than 20 of these assets target the needs of the state’s population as a whole.

In particular, North Dakota’s digital equity assets reflect the State’s commitment to prepare its students with the skills needed to participate in today’s highly digital economy as reflected in Governor Burgum’s Five Strategic Initiatives for the state.⁵⁵ They also reflect the State’s belief that it is equally important to support adult workers in gaining digital skills to ensure that they can participate in North Dakota’s in-demand jobs.⁵⁶

Of the state’s covered populations, the low-income population is the most supported by the state’s identified digital inclusion assets. However, only one identified digital inclusion asset in the state explicitly supports each of the incarcerated, veterans, and language barrier/low literacy populations.⁵⁷

Covered Populations identified in the DE NOFO:

- (1) Individuals living in households that have incomes at or below 150% of the Federal Poverty Level
- (2) Individuals 60 years of age or older
- (3) Incarcerated individuals (other than those in Federal correctional facilities)
- (4) Veterans
- (5) Individuals with disabilities
- (6) Individuals with language barriers
- (7) Individuals who are members of racial or ethnic minorities
- (8) Individuals who primarily reside in rural areas

This section explains each of the state’s digital equity assets in greater detail. This assessment of broadband and digital inclusion in North Dakota captures a point-in-time snapshot of needs and gaps. The State Broadband Program Office recognizes that broadband and digital skills sit at the center of a dynamic and constantly evolving landscape. Recently, questions have been raised about how advances in the field of artificial intelligence (AI) may affect and interact with broadband and digital inclusion efforts. The rapid rise of AI is creating an entirely new set of digital resources that may lead to a widening gap between those that have the internet connections, devices, and digital skills to capitalize on these advancements and those that do not. Therefore, AI can either serve as the limiting factor or catalyst to help close the digital divide. AI can help close the digital divide through innovative tools and resources that can connect North Dakotans with information and educational opportunities based on their specific needs. Personalized learning represents one of the most common applications of AI within education. Analyzing large volumes of data on AI-enabled tools allows institutions to deliver digital skills trainings that are tailored to the specific needs of each beneficiary. While proliferation of AI-enabled tools may contribute to the digital divide, AI also creates many new opportunities and the potential to address existing inequities. The State Broadband Program Office remains mindful of the impacts of AI while the landscape continues to evolve and grow.

⁵⁵ North Dakota Office of the Governor (accessed on May 26, 2023), Five Strategic Initiatives for North Dakota. Accessed at: <https://www.governor.nd.gov/five-strategic-initiatives-north-dakota>.

⁵⁶ North Dakota Department of Commerce (published in August 2022), North Dakota Fundamental Digital Literacy Research and Recommendations. Accessed at: <https://www.medialibrary.nd.gov/assetbank-nd/assetfile/121546.pdf>.

⁵⁷ This estimate considers digital skills and awareness programs that explicitly serve the covered population in question. This does not account for programs that generally serve the population as a whole.

3.1.1 Digital Inclusion Assets by Covered Population

The digital inclusion asset table (**Appendix B**) lists North Dakota's identified digital inclusion assets that specifically support one or more of the eight covered populations identified in the DE NOFO. These assets are also listed where relevant in **Sections 3.1.4** and **3.1.5** of the Plan.

As detailed in **Appendix B**, North Dakota's low-income population is the covered population most supported by the state's identified digital inclusion assets. Conversely, the state's language barrier/low literacy population is supported by only one digital inclusion asset identified in the state.

3.1.2 Existing Digital Equity Plans

While conducting initial research for this asset inventory, North Dakota did not identify any existing digital equity plans instituted by municipal or regional governments or Tribal Governments in the state. These types of digital equity plans also were not identified through the stakeholder engagement process or through a survey distributed to North Dakota League of Cities members.

3.1.3 Existing Digital Equity Programs

While conducting initial research for this asset inventory, North Dakota did not identify any existing digital equity programs instituted by municipal or regional governments or Tribal Governments in the state. These types of digital equity programs also were not identified through the stakeholder engagement process or through a survey distributed to North Dakota League of Cities members.

3.1.4 Broadband Adoption – Assets

In the Infrastructure Investment and Jobs Act, Congress defined the “adoption of broadband” as the process by which an individual obtains daily access to the internet, provided that:

1. The internet is accessible at a speed, quality, and capacity necessary for the individual to accomplish common tasks and qualifies as an advanced telecommunications capability;⁵⁸
2. The individual has the digital skills that are necessary for participation online; and
3. The individual accesses the internet on a personal device and secure and convenient network.⁵⁹

In North Dakota, 97% of all Broadband Serviceable Locations (BSLs)⁶⁰ have access to internet at speeds of at least 100/20 Mbps, based on data from the Federal Communications Commission.⁶¹ This high level of broadband access, even in remote regions of the state, provides a great opportunity for promoting widespread broadband adoption.

Multiple organizations operating in North Dakota offer programs and services aimed at equipping North Dakotans with essential digital skills and promoting broadband adoption. These programs and services, which are detailed in **Table 4** below, support the State's commitment to prepare individuals for success in today's digital world.

⁵⁸ “Advanced telecommunications capability” is high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology, without regard to any transmission media or technology (47 U.S.C. §1302).

⁵⁹ 47 U.S.C. §1721(1).

⁶⁰ *The Federal Communications Commission defines broadband serviceable locations as a business or residential location in the United States at which fixed broadband Internet access service is, or can be, installed.*

⁶¹ Federal Communications Commission (published on December 31, 2022), FCC BDC National Broadband Map. Accessed at: <https://broadbandmap.fcc.gov/data-download/nationwide-data?version=jun2022>.

A closer examination of these programs and services reveals that the majority of them are focused on developing the digital skills necessary for the workforce. For those preparing to enter the workforce, North Dakota is equipping high school and college students through required computer science coursework. For adults, North Dakota is offering digital skills training at Adult Learning Centers or TrainND workforce training locations, as well as online through the North Dakota Citizens Skills for All program. Similar offerings also exist for members of the incarcerated population, including the Last Mile Program.

Further, the state’s digital skills programs and services target basic digital skills beyond those needed to participate in the workforce. Additionally, many assets are available through ND Assistive to assist individuals with disabilities and aging individuals in using assistive technology for computer and internet access.

Table 4: Digital Skills and Awareness Programs

| Name | Organization | Description |
|---|--|--|
| Online inventory of free digital skills training | North Dakota Workforce Connection | This inventory includes links to multiple online learning resources that provide free digital skills training. ⁶² |
| Assistive technology training for individuals | ND Assistive (a non-profit organization that provides assistive technology devices for North Dakotans who need them) | This training focuses on instruction on how to use a specific assistive technology device; it includes training regarding utilizing assistive technology devices to use computers. ⁶³ |
| In-person demonstrations of assistive technology | ND Assistive | These demonstrations cover the use of assistive technology equipment that can assist with computer access. ⁶⁴ |
| Webinar on “smart home” technology ⁶⁵ | ND Assistive | These webinars are part of a series of webinars ⁶⁶ offered by ND Assistive that cover some of the most needed assistive technology devices based on requests at ND Assistive’s demonstration centers. ⁶⁷ |
| “How-to” video for using a large-print keyboard ⁶⁸ | ND Assistive | This video is part of a series of “how-to” videos ⁶⁹ that encompass the set-up, use, and |

⁶² North Dakota Workforce Connection (accessed on May 4, 2023), Online Learning Resources. Accessed at: <https://www.ndworkforceconnection.com/vosnet/Default.aspx>, then click on “Services – For Individuals,” then click on “More Education Services,” then click on “Online Learning Resources.”

⁶³ ND Assistive (accessed on May 10, 2023), Training. Accessed at: <https://ndassistive.org/services-for-professionals/training/>.

⁶⁴ ND Assistive (accessed on May 10, 2023), Equipment Demonstration. Accessed at: <https://ndassistive.org/equipment-demonstration/>.

⁶⁵ ND Assistive (accessed on May 30, 2023), North Dakota Assistive Webinar: Smart Home Basics. Accessed at: https://www.youtube.com/watch?v=y7na_2jkb7A&list=PLFdTAMKp6QmSdYdSF9nIxjumxp7fiF8Et&index=1.

⁶⁶ ND Assistive (accessed on May 30, 2023), North Dakota Assistive Webinars. Accessed at: <https://www.youtube.com/playlist?list=PLFdTAMKp6QmSdYdSF9nIxjumxp7fiF8Et>.

⁶⁷ ND Assistive (accessed on May 30, 2023), Assistive Technology Training Opportunities from ND Assistive. Accessed at: <https://ndassistive.org/blog/assistive-technology-training-opportunities-from-nd-assistive/>.

⁶⁸ ND Assistive (accessed on May 30, 2023), Assistive Technology Device Large Print Keyboard. Available at: <https://www.youtube.com/watch?v=d8V-unSibEo&list=PLFdTAMKp6QmTSztna5DwResvt9DFvhZbM&index=2>.

⁶⁹ ND Assistive (accessed on May 30, 2023), Assistive Technology Instructional Videos. Available at: <https://www.youtube.com/playlist?list=PLFdTAMKp6QmTSztna5DwResvt9DFvhZbM>.

| | | |
|--|--|---|
| | | troubleshooting of many common assistive technology devices. ⁷⁰ |
| Microsoft Word Accessibility training | ND Assistive | This training consists of seven free modules that are interactive and self-paced; the module topics include “Intro to Accessible Documents,” “Working with Styles,” “Working with Colors,” “Formatting with Columns, Hyperlinks, & Objects,” “Working with Tables,” “Documents Basics & Accessibility Tracker,” and “Converting Word Documents to PDF.” ⁷¹ |
| Cybersecurity and computer science curriculum requirements | North Dakota public schools | These requirements were enacted in House Bill 1398, which was signed into law on March 24 th , 2023; ⁷² cybersecurity and computer science plans that schools can use to help create their courses will be developed by North Dakota Information Technology’s (NDIT’s) EduTech division. ⁷³ |
| Policy to mandate coursework in digital literacy | North Dakota Board of Higher Education | This policy was adopted in April 2023; it applies to all North Dakota University System graduates. ⁷⁴ |
| Cybersecurity educational training | Broadband Association of North Dakota (BAND) | This training is available for customers of BAND members; it promotes safe/smart broadband usage. ⁷⁵ |
| Digital literacy skills services | North Dakota’s Adult Learning Centers | These services are offered at each of the Adult Learning Centers throughout the state (the North Dakota Department of Public Instruction funds 9 Regional Adult Learning Centers and 3 affiliated Satellite Programs using federal funds received under the Workforce Innovation and Opportunities Act (WIOA)). ⁷⁶ |
| Computer skills courses | TrainND Northwest, a division of Williston State College | These courses are offered as part of TrainND Northwest’s workforce training. ⁷⁷ |
| Computer skills courses | TrainND Northeast, a division of Lake Region State College | These courses include basic computer skills and computer application training courses; they are |

⁷⁰ ND Assistive (accessed on May 30, 2023), Assistive Technology Training Opportunities from ND Assistive. Accessed at: <https://ndassistive.org/blog/assistive-technology-training-opportunities-from-nd-assistive/>.

⁷¹ ND Assistive (accessed on May 10, 2023), Web & Document Accessibility Training. Accessed at: <https://ndassistive.org/services-for-professionals/web-and-document-accessibility-training/>.

⁷² North Dakota Legislative Assembly (enrolled on March 20, 2023), House Bill No. 1398 (As Enrolled). Accessed at: <https://www.ndlegis.gov/assembly/68-2023/regular/documents/23-0970-03000.pdf>.

⁷³ North Dakota Department of Public Instruction (published on March 24, 2023), Burgum, Baesler applaud landmark North Dakota computer science, cybersecurity measure. Accessed at: <https://www.nd.gov/dpi/news/burgum-baesler-applaud-landmark-north-dakota-computer-science-cybersecurity-measure>.

⁷⁴ Grand Forks Herald (published on April 27, 2023), North Dakota Legislature passes ‘record’ funds for higher-ed system. Accessed at: <https://www.grandforksherald.com/news/north-dakota/north-dakota-legislature-passes-record-funds-for-higher-ed-system>.

⁷⁵ Broadband Association of North Dakota. Interview. May 9, 2023.

⁷⁶ North Dakota Department of Public Instruction (accessed on May 5, 2023), Adult Learning Centers (ALC). Accessed at: <https://www.nd.gov/dpi/education-programs/adult-education-ged/adult-learning-centers-alc>.

⁷⁷ TrainND Northwest – Williston State College (accessed on May 9, 2023), TrainND Northwest. Accessed at: <https://willistonstate.augusoft.net/>.

| | | |
|--|---|---|
| | | offered as part of TrainND Northeast’s workforce training. ⁷⁸ |
| Digital skills courses | TrainND Southwest, a division of Bismarck State College | These courses are offered as part of TrainND Southwest’s workforce training. ⁷⁹ |
| Computer technology courses | TrainND Southeast, a division of the North Dakota State College of Science | These courses address basic skills related to common computer applications; they are offered as part of the TrainND Southeast’s workforce training. ⁸⁰ |
| The Last Mile Program | North Dakota State Penitentiary in partnership with Job Service North Dakota (JSND) and the North Dakota Department of Commerce | This is a national program that is designed to give felons employable skills as coders; it was launched at the North Dakota State Penitentiary during the 2019-2021 biennium. ⁸¹ |
| Cybersecurity courses | North Dakota Citizens Skills for All Initiative from Cisco Networking Academy | These courses are free, quality, self-paced online learning aligned to industry jobs; the courses include “Introduction to Cybersecurity,” “Computer Hardware Basics,” and “Operating System Basics.” ⁸² |
| Web development continuing education courses | Universal Class (offered through the North Dakota State Library) | These courses are part of the over 500 courses in 30 areas of study offered online by Universal Class. ⁸³ |
| Tutorials for accessing online library resources | North Dakota State Library | The tutorials are available on the State Library’s YouTube channel. ⁸⁴ |
| Cybersecurity Academy | Palo Alto Networks Education Services | This program offers free cybersecurity education courseware to qualified high schools and institutions of higher education; ⁸⁵ 10 locations in North Dakota participate in this program. ⁸⁶ |
| Digital Navigator program | Sitting Bull College | This program is offered to students pursuing a GED; it issues loaner devices, helps set up emails, |

⁷⁸ TrainND Northeast – Lake Region State College (accessed on May 9, 2023), TrainND Northeast. Accessed at: <https://www.lrsc.edu/discover-lrsc/business-community/trainnd-northeast>.

⁷⁹ Bismarck State College (accessed on May 9, 2023), TrainND & Workforce Training. Accessed at: <https://bismarckstate.edu/continuingeducation/business/>.

⁸⁰ North Dakota State College of Science (accessed on May 9, 2023), TrainND. Accessed at: <https://www.ndscs.edu/workforce-affairs/trainnd>.

⁸¹ North Dakota Department of Corrections and Rehabilitation (accessed on May 9, 2023), 2019-2021 Biennial Report. Accessed at: <https://www.docr.nd.gov/sites/www/files/documents/Biennial%20Report%20Archive/2019-2021%20Biennium%20Report.pdf>.

⁸² North Dakota EduTech (accessed on May 17, 2023), North Dakota Citizens Skills for All. Accessed at: <https://www.edutech.nd.gov/northdakotacitizensskillsforall>.

⁸³ North Dakota State Library (accessed on May 17, 2023), Online Library Resource Guide – Universal Class. Accessed at: <http://library.nd.gov/publications/universalclassguide.pdf>.

⁸⁴ North Dakota State Library (accessed on May 17, 2023), ND State Library. Accessed at: <https://www.youtube.com/NDStateLibrary>.

⁸⁵ Palo Alto Networks (accessed on June 15, 2023), Education Services. Accessed at: <https://www.paloaltonetworks.com/services/education#:~:text=Palo%20Alto%20Networks%20Education%20Services%20offers%20free%20e-learning%20courses,learn%20at%20your%20>

⁸⁶ Palo Alto Networks (accessed on June 15, 2023), Cybersecurity Academy – Americas Region. Accessed at: https://www.paloaltonetworks.com/content/dam/pan/en_US/assets/pdf/education/americas-academy-list-june-2022.pdf.

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| | | and familiarizes students with software and online programs. ⁸⁷ |
| Training on using internet and devices | Senior Planet/AARP | AARP is affiliated with Senior Planet; ⁸⁸ this program licenses individuals to train on programming for how to use the internet and devices. ⁸⁹ |

In many instances, the cost of broadband, devices, or both represents a significant hurdle to broadband adoption. North Dakota has multiple financial assistance programs that address this issue, as outlined in **Table 6** in **Section 3.1.5** below. These programs provide targeted financial assistance to various covered populations, including individuals who live in low-income households (those with incomes that are at or below 150% of the Federal Poverty Level), individuals living on Tribal Lands, individuals with disabilities, and aging individuals.

Another means of promoting broadband adoption is through public resources that provide access to the internet and devices. These assets help those experiencing financial and other hurdles related to obtaining digital devices and signing up for internet services take advantage of these offerings through public mechanisms.

Throughout the state, public libraries, institutions of higher education, K-12 public schools, and ND Assistive (a non-profit organization that offers assistive technology devices for North Dakotans who need them) all provide public access to broadband, devices, or both. These assets, listed in **Table 5** below, promote broadband adoption for the public at large. They primarily target those individuals who cannot otherwise afford broadband or devices, individuals with disabilities, and aging individuals.

Table 5: Assets providing Public Access to Broadband and Devices

| Name | Organization | Description |
|----------------------------------|---|---|
| Public computer and wi-fi access | Adams County Public Library | The library has computers available for use and wi-fi access. ⁹⁰ |
| Public computer and wi-fi access | Beulah Public Library | The library has computers available for use and wi-fi access. ⁹¹ |
| Public computer and wi-fi access | Bismarck Veterans Memorial Public Library | The library has computers available for use and wi-fi access. ⁹² |
| Public computer and wi-fi access | Bottineau County Public Library | The library has computers available for use and wi-fi access. ⁹³ |

⁸⁷ DigitalUS (accessed on May 5, 2023), Program Profiles – Sitting Bull College. Accessed at: <https://digitalus.org/digital-navigator-playbook/program-profiles/>.

⁸⁸ Senior Planet from AARP (accessed on July 28, 2023), Senior Planet. Accessed at: <https://seniorplanet.org/>.

⁸⁹ Stakeholder Interview. May 18, 2023.

⁹⁰ Adams County Library (accessed on June 15, 2023), Adams County Library. Accessed at: <https://adamscountyndlibrary.com/>.

⁹¹ Beulah Public Library (accessed on June 15, 2023), Beulah Public Library. Accessed at: <https://beulahndlibrary.com/>.

⁹² Bismarck Veterans Memorial Public Library (accessed on June 15, 2023), Information Services. Accessed at: <https://bismarcklibrary.org/155/Information-Services>.

⁹³ Bottineau County Public Library (accessed on June 15, 2023), Policies. Accessed at: <https://bottineaucountyndlibrary.com/policies/>.

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|----------------------------------|--|--|
| Public computer and wi-fi access | Bowman Regional Public Library | The library has computers available for use and wi-fi access that is available 24/7. ⁹⁴ |
| Public computer and wi-fi access | Cando Community Library | The library has 3 computer stations available for use and wi-fi access. ⁹⁵ |
| Public computer access | Carnegie Regional Library | The library has computers available for use. ⁹⁶ |
| Public computer access | Carrington City Library | The library has computers available for use. ⁹⁷ |
| Public computer and wi-fi access | Casselton Public Library | The library has three computers available for use and wi-fi access. ⁹⁸ |
| Public internet access | Cavalier County Library | The library has wi-fi access. ⁹⁹ |
| Public computer access | Dickinson Area Public Library | The library has computers available for use for library card holders in good standing. ¹⁰⁰ |
| Public computer access | Divide County Public Library | The library has computers available for use. ¹⁰¹ |
| Public computer and wi-fi access | Edgeley Public Library | The library has computers available for use and wi-fi access. ¹⁰² |
| Public computer access | Ellendale Public Library | The library has computers available for use. ¹⁰³ |
| Public computer access | Enderlin Municipal Library | The library has 10 computers available for use. ¹⁰⁴ |
| Public computer and wi-fi access | Fargo Public Library (Main Library) | The library has 40 computers available for use (31 for adults and 9 for children) and wi-fi access. ¹⁰⁵ |
| Public computer and wi-fi access | Fargo Public Library (Dr. James Carlson Library) | The library has 22 computers available for use (15 for adults and 7 for children) and wi-fi access. ¹⁰⁶ |

⁹⁴ Bowman Regional Public Library (accessed on June 15, 2023), Library Services. Accessed at: <https://www.bowmanlibrary.com/about/library-services/>.

⁹⁵ Cando Community Library (accessed on June 15, 2023), Library Policies. Accessed at: <https://www.candocommunitylibrary.com/library-policies>.

⁹⁶ Carnegie Regional Library (accessed on June 15, 2023), Services. Accessed at: <https://griftonndlibrary.com/services/>.

⁹⁷ Carrington City Library (accessed on June 15, 2023), Services and Policies. Accessed at: <https://carringtonlibrary.org/services/>.

⁹⁸ Casselton Public Library (accessed on June 15, 2023), Services. Accessed at: <https://casseltonndlibrary.com/about-2/services/>.

⁹⁹ Cavalier County Library (accessed on June 20, 2023), Cavalier County Library. Accessed at: <https://cavaliercountyndlibrary.com/>. (This asset is not listed on the Library's website but was verified on its Facebook page.)

¹⁰⁰ Dickinson Area Public Library (accessed on June 15, 2023), Library Services Policy. Accessed at: <http://www.dickinsonlibrary.org/library-services-policy-12358>.

¹⁰¹ Divide County Public Library (accessed on June 15, 2023), Divide County Library Computer Use Policy. Accessed at: <https://dividecountyndlibrary.files.wordpress.com/2019/08/divide-county-library-computer-use-policy-1.doc>.

¹⁰² Edgerly Public Library (accessed on June 16, 2023), Library Services. Accessed at: <https://edgeleylibrary.org/services.php>.

¹⁰³ Ellendale Public Library (accessed on June 16, 2203), Ellendale Public Library. Accessed at: <https://ellendalendlibrary.com/>.

¹⁰⁴ Enderlin Municipal Library (accessed on June 16, 2023), Enderlin Municipal Library. Accessed at: <http://enderlinnd.com/library>.

¹⁰⁵ Fargo Public Library (accessed on June 16, 2023), Services and Equipment Available to the Public. Accessed at: <https://fargond.gov/city-government/departments/library/services/printing-scanning-equipment-available>.

¹⁰⁶ Fargo Public Library (accessed on June 16, 2023), Services and Equipment Available to the Public. Accessed at: <https://fargond.gov/city-government/departments/library/services/printing-scanning-equipment-available>.

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| Public computer and wi-fi access | Fargo Public Library (Northport Library) | The library has 9 computers available for use (5 for adults and 4 for children) and wi-fi access. ¹⁰⁷ |
| Public computer and wi-fi access | Grand Forks Public Library | The library has computers available for use and wi-fi access. ¹⁰⁸ |
| Public computer and wi-fi access | Griggs County Public Library | The library has computers available for use and wi-fi access. ¹⁰⁹ |
| Public computer and wi-fi access | Harvey Public Library | The library has computers available for use and wi-fi access. ¹¹⁰ |
| Public computer and wi-fi access | Heart of America Public Library | The library has 4 computers available for use and wi-fi access. ¹¹¹ |
| Public computer access | Iris Swedlund School & Public Library | The library has computers available for use. ¹¹² |
| Public computer access | James River Valley Library System (Alfred Dickey Public Library) | The library has computers available for use. ¹¹³ |
| Public computer access | James River Valley Library System (Stutsman County Library) | The library has computers available for use. ¹¹⁴ |
| Public wi-fi access | Kindred Public Library | The library has wi-fi access. ¹¹⁵ |
| Public computer and wi-fi access | Lake Region Public Library | The library has 8 computers available for use and wi-fi access. ¹¹⁶ |
| Public computer and wi-fi access | Leach Public Library | The library has computers available for use and wi-fi access. ¹¹⁷ |
| Public wi-fi access | Lidgerwood Public Library | The library has wi-fi access. ¹¹⁸ |
| Public computer access | Lisbon Public Library | The library has computers available for use. ¹¹⁹ |

¹⁰⁷ Fargo Public Library (accessed on June 16, 2023), Services and Equipment Available to the Public. Accessed at: <https://fargond.gov/city-government/departments/library/services/printing-scanning-equipment-available>.

¹⁰⁸ Grand Forks Public Library (accessed on June 16, 2023), Computer Services. Accessed at: <https://www.gflibrary.com/95/Computer-Services>.

¹⁰⁹ Griggs County Public Library (accessed on June 16, 2023), Internet Use Policy. Accessed at: <https://griggscountypubliclibrary.com/internet-use-policy/>.

¹¹⁰ Harvey Public Library (accessed on June 16, 2023), Policies. Accessed at: <https://harveyndlibrary.com/policies/>.

¹¹¹ Heart of America Library (accessed on June 16, 2023), Library News May 3, 2023. Accessed at: <https://rugbyndlibrary.com/2023/05/03/library-news-may-3-2023/>.

¹¹² City of Velva North Dakota (accessed on June 23, 2023), Iris Swedlund School & Public Library. Accessed at: <https://www.velvand.com/iris-swedlund-school-and-public-library>.

¹¹³ James River Valley Library System (accessed on June 16, 2023), Computer & Internet Access Policy. Accessed at: https://www.jrvls.org/files/ugd/e61363_f2aa1b307951462f9c523a0c85317bc3.pdf.

¹¹⁴ James River Valley Library System (accessed on June 16, 2023), Computer & Internet Access Policy. Accessed at: https://www.jrvls.org/files/ugd/e61363_f2aa1b307951462f9c523a0c85317bc3.pdf.

¹¹⁵ Kindred Public Library (accessed on June 16, 2023), Welcome to the Kindred Public Library! Accessed at: <https://kindredndlibrary.org/>.

¹¹⁶ Lake Region Public Library (accessed on June 16, 2023), About Us. Accessed at: <https://deviislakendlibrary.com/about-us/>.

¹¹⁷ Leach Public Library (accessed on June 16, 2023), Services. Accessed at: <http://www.leachlibrarywahpeton.org/services.html>.

¹¹⁸ City of Lidgerwood North Dakota (accessed on June 16, 2023), Library. Accessed at: <https://www.cityoflidgerwoodnd.com/?SEC=4B7CAB22-CBCE-4B42-8BE1-38BFCF2506CA>.

¹¹⁹ Lisbon Public Library (accessed on June 16, 2023), Computer Use Policy. Accessed at: <https://www.lisbonpubliclibrary.com/>.

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|----------------------------------|--|---|
| Public computer and wi-fi access | Max Community Library | The library has computers available for use and wi-fi access. ¹²⁰ |
| Public computer and wi-fi access | McKenzie County Public Library | The library has computers available for use and wi-fi access. ¹²¹ |
| Public computer and wi-fi access | Minot Public Library | The library has computers available for use and wi-fi access. ¹²² |
| Public computer and wi-fi access | Morton Mandan Public Library | The library has computers available for use and wi-fi access. ¹²³ |
| Public computer access | Mott Public Library | The library has computers available for use and wi-fi access. ¹²⁴ |
| Public computer and wi-fi access | New Town City Library | The library has computers available for use and wi-fi access. ¹²⁵ |
| Public computer and wi-fi access | Oakes Public Library & School | The library has 18 computers available for use and wi-fi access. ¹²⁶ |
| Public computer and wi-fi access | Parshall Public Library | The library has computers available for use and, for those who already have an account with Reservation Telephone Cooperative, wi-fi access. ¹²⁷ |
| Public computer and wi-fi access | Tioga Community Library | The library has computers available for use and wi-fi access. ¹²⁸ |
| Public computer access | Turtle Lake Public Library | The library has a computer available for use. ¹²⁹ |
| Public computer and wi-fi access | Underwood Public Library | The library has computers available for use and wi-fi access. ¹³⁰ |
| Public computer and wi-fi access | Valley City Barnes County Public Library | The library has computers available for use and wi-fi access. ¹³¹ |
| Public computer access | Walhalla Public Library | The library has computers available for use. ¹³² |

¹²⁰ Max Community Library (accessed on June 16, 2023), Max Community Library Policy Manual. Accessed at: <https://maxndlibrary.files.wordpress.com/2020/03/april-2020.pdf>.

¹²¹ McKenzie County Public Library (accessed on June 16, 2023), Policy Handbook. Accessed at: https://www.mckenziecountyndlibrary.com/usrfiles/cp/Policy_Handbook.pdf.

¹²² Minot Public Library (accessed on June 16, 2023), Library Internet Guidelines. Accessed at: https://www.minotlibrary.org/wp-content/uploads/2021/07/Internet-Guidelines_2021_FINAL.pdf.

¹²³ Morton Mandan Public Library (accessed on June 16, 2023), Policy Manual. Accessed at: [https://www.cityofmandan.com/vertical/sites/%7B38C3EFDC-F4D8-4D02-9E13-0987A081A7A4%7D/uploads/MMPL_Policy_Manual_2018\(1\).pdf](https://www.cityofmandan.com/vertical/sites/%7B38C3EFDC-F4D8-4D02-9E13-0987A081A7A4%7D/uploads/MMPL_Policy_Manual_2018(1).pdf).

¹²⁴ Mott Public Library (accessed on June 16, 2023), Our Services. Accessed at: <https://mottndlibrary.com/our-services/>.

¹²⁵ New Town City Library (accessed on June 16, 2023), About. Accessed at: <https://newtownndlibrary.com/about-2/>.

¹²⁶ Oakes Public Library & School (accessed on June 16, 2023), Public Library. Accessed at: <https://oakesnd.com/library>.

¹²⁷ Parshall Public Library (accessed on June 16, 2023), Parshall Public Library. Accessed at: <https://parshallndlibrary.com/>.

¹²⁸ Tioga Community Library (accessed on June 16, 2023), Internet Access Policy. Accessed at: <https://tiogandlibrary.org/internet-access-policy/>.

¹²⁹ Turtle Lake Public Library (accessed on June 16, 2023), TLPL Policies. Accessed at: <https://turtelakendlibrary.com/tlpl-policies/>.

¹³⁰ Underwood Public Library (accessed on June 16, 2023), Underwood Public Library. Accessed at: www.underwoodnd.org/city.

¹³¹ Valley City Barnes County Public Library (accessed on June 16, 2023), Internet Access and Computer Use Policy. Accessed at: https://vcblibrary.org/file_download/inline/d8367ddc-d33a-4396-a0ab-218d0edf61c0.

¹³² Walhalla Public Library (accessed on June 16, 2023), Walhalla Public Library. Accessed at: <https://walhallandlibrary.com/>.

| | | |
|--|---|---|
| Public computer and wi-fi access | Ward County Public Library | The library has computers available for use and wi-fi access. ¹³³ |
| Public computer and wi-fi access | Washburn Public Library | The library has computers available for use and wi-fi access. ¹³⁴ |
| Public computer and wi-fi access | West Fargo Public Library | The library has 12 computers available for use and wi-fi access. ¹³⁵ |
| Public computer access | Bismarck State College Library | The library offers public access to computers for internet and email. ¹³⁶ |
| Public computer and wi-fi access | Chester Fritz Library, University of North Dakota | The library offers public access to its computer lab and wireless network. ¹³⁷ |
| Public computer access | North Dakota Supreme Court Law Library | The library offers public access to its computers for legal research purposes. ¹³⁸ |
| One-to-One Technology Initiative | Fargo Public Schools | The initiative assigns a personal learning device to each student in grades Pre-K through 12. ¹³⁹ |
| 1:1 Chromebook Program | Bismarck Public Schools | The program assigns a Chromebook to each student in grades K-12. ¹⁴⁰ |
| 1:1 Chromebook Program | Dickinson Public Schools | The program assigns a Chromebook to each student in grades 2-12. ¹⁴¹ |
| North Dakota Assistive Technology For All database | ND Assistive | This is an equipment database for short- and long-term loans for assistive technology, including computers; ND Assistive also provides use of the database at no charge to individuals and non-profit, state, and school-based organizations to host their assistive technology inventories. ¹⁴² |
| Public laptops and hotspots | Grand Forks Public Library | These resources are available for checkout. ¹⁴³ |
| Public iPads | Leach Public Library | This resource is available for checkout. ¹⁴⁴ |

¹³³ Ward County (accessed on June 16, 2023), Library. Accessed at: <https://www.co.ward.nd.us/161/Library>.

¹³⁴ Washburn Public Library (accessed on June 16, 2023), Washburn Public Library. Accessed at: <https://washburnndlibrary.com/>.

¹³⁵ West Fargo Public Library (accessed on June 16, 2023), Equipment. Accessed at: <https://westfargolib.org/765/Equipment>.

¹³⁶ Bismarck State College, North Dakota's Polytechnic Institution (accessed on May 9, 2023), Library. Accessed at: <https://bismarckstate.edu/community/communitysub/library/#:~:text=Visitors%20can%20use%20public%20computers,access%20to%20all%20state%20libraries>.

¹³⁷ University of North Dakota (accessed on May 9, 2023), Computer and Network Access. Accessed at: <https://library.und.edu/services/computers-network-access.html>.

¹³⁸ North Dakota Supreme Court Law Library (accessed on May 5, 2023), Public Access Computer Use. Accessed at: <https://www.ndcourts.gov/Media/Default/Legal%20Resources/law-library/NDSCLL%20Computer%20Use.pdf>.

¹³⁹ Fargo Public Schools (accessed on May 16, 2023), One-to-One Technology Initiative. Accessed at: <https://www.fargo.k12.nd.us/Page/178>.

¹⁴⁰ Bismarck Public Schools (accessed on May 16, 2023), Parent Resources: Chromebook Information. Accessed at: <https://www.bismarckschools.org/site/Default.aspx?PageID=3482>.

¹⁴¹ Dickinson Public Schools (accessed on May 18, 2023), Dickinson Public Schools 1:1 Chromebook Program. Accessed at: [https://campussuite-storage.s3.amazonaws.com/prod/1559052/0c0088e8-2359-11eb-967e-0a78a2f94121/2578791/6906308e-d8af-11ed-87f8-0a426908bb6b/file/1to1-Agreement%20\(002\).pdf](https://campussuite-storage.s3.amazonaws.com/prod/1559052/0c0088e8-2359-11eb-967e-0a78a2f94121/2578791/6906308e-d8af-11ed-87f8-0a426908bb6b/file/1to1-Agreement%20(002).pdf).

¹⁴² ND Assistive (accessed on May 16, 2023), WELCOME TO North Dakota ASSISTIVE TECHNOLOGY FOR ALL!. Accessed at: <https://nd.at4all.com/>.

¹⁴³ Grand Forks Public Library (accessed on May 16, 2023), Computer Services. Accessed at: <https://www.gflibrary.com/95/Computer-Services>.

¹⁴⁴ Leach Public Library (accessed on June 16, 2023), Services. Accessed at: <http://www.leachlibrarywahpeton.org/services.html>.

| | | |
|---|--|---|
| Public children's tablets, iPads, and mobile wi-fi hotspots | West Fargo Public Library | These resources are available for checkout. ¹⁴⁵ |
| Laptops and tablets for the university community | University Information Technology, University of North Dakota | These resources are available for checkout by students, faculty, and staff. ¹⁴⁶ |
| Tablets available free to charge | North Dakota Department of Corrections and Rehabilitation (in partnership with Ashland University and SECURUS) | These tablets are provided to facility residents free to charge, but residents incur a cost for messaging and calls. ¹⁴⁷ |
| Free iPads for telehealth services | United States Department of Veterans Affairs | Veterans in need of health services receive free iPads to access telehealth services. ^{148, 149} |

One measure for assessing broadband adoption is the number of households that access the internet on a secure personal device. In North Dakota, as many as 292,000 households (92%) own a computer, which is relatively consistent with the national computer ownership rate of 93%.¹⁵⁰ However, computer ownership is lower for certain counties, with eleven out of fifty-three counties in North Dakota having computer ownership rates of less than 85%. Notably, all of these counties are sparsely populated (with populations of less than 13,000 each), which indicates that rural regions are more likely to exhibit low levels of computer ownership.¹⁵¹ Low levels of computer ownership in these counties also correspond with low levels of broadband adoption, as those same eleven counties have an average broadband subscription rate of 74% compared to an average of 84% for all counties (see **Table 10** in **Section 3.2.2** below). Similarly, there is low levels of computer ownership in counties with a high proportion of low-income individuals. The same eleven counties with the lowest level of computer ownership contain five of the top six counties with the highest proportion of low-income individuals.¹⁵²

Since public libraries provide free access to computers and internet connections and often offer digital skills training and technology-related workforce development programs,¹⁵³ they are important tools for promoting broadband adoption. This is particularly true for those counties in North Dakota with low computer ownership rates and low levels of broadband subscriptions.

¹⁴⁵ West Fargo Public Library (accessed on May 16, 2023), Equipment. Accessed at: <https://www.westfargond.gov/765/Equipment#2a>.

¹⁴⁶ Stakeholder Interview. May 11, 2023.

¹⁴⁷ Stakeholder Interview. May 15, 2023.

¹⁴⁸ Stakeholder Interview. May 18, 2023.

¹⁴⁹ VA News (published on September 15, 2020), VA expands Veteran access to telehealth with iPad services. Accessed at: <https://news.va.gov/press-room/va-expands-veteran-access-to-telehealth-with-ipad-services/>.

¹⁵⁰ United States Census American Community Survey (published in 2021), Selected Social Characteristics 2021 5-Year Estimates. Accessed at: <https://data.census.gov/table?q=DP02&q=010XX00US&tid=ACSDP5Y2021.DP02>.

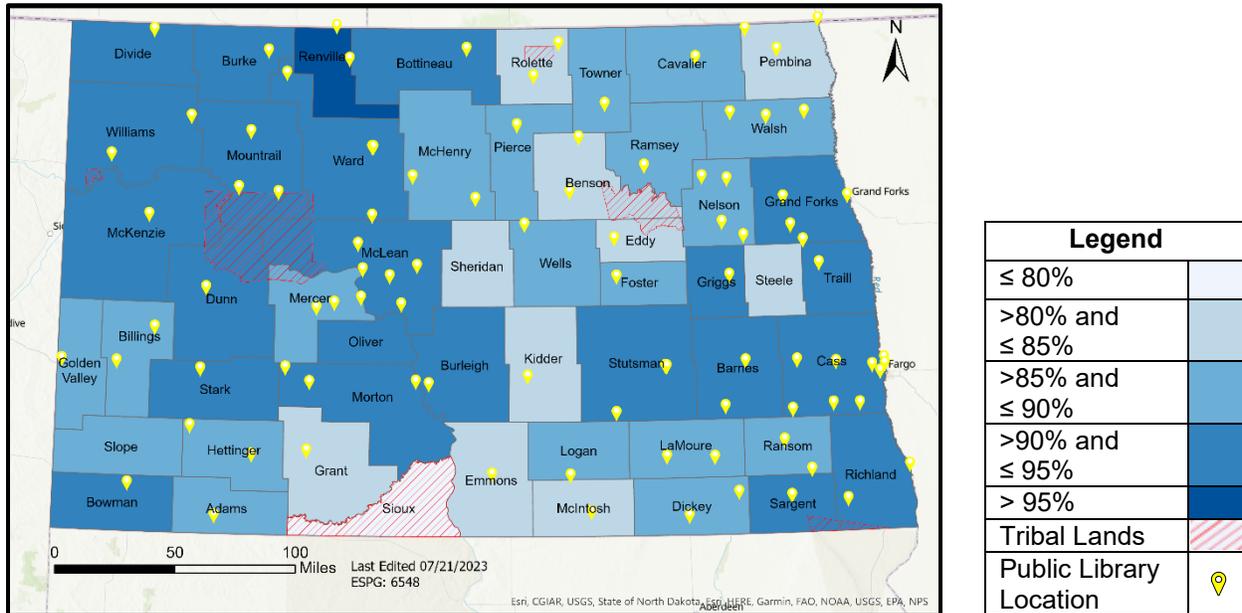
¹⁵¹ *The Digital Equity Act defines rural population as "the population living outside of cities and towns with more than 20,000 residents or living outside larger cities and towns with more than 50,000 residents and their surrounding urban areas."*

¹⁵² United States Census American Community Survey (published in 2021), Selected Social Characteristics 2021 5-Year Estimates. Accessed at: <https://data.census.gov/table?q=DP02&q=010XX00US&tid=ACSDP5Y2021.DP02>.

¹⁵³ Federal Communications Commission (published on June 24, 2021), The Role of Public Libraries and Community Partnerships in Promoting Digital Adoption. Accessed at: <https://www.fcc.gov/sites/default/files/acdde-digital-empowerment-wg-digital-inclusion-report-06242021.pdf>.

Figure 7 below depicts the percentage of households in North Dakota with a computer by county and the location of North Dakota’s public libraries.

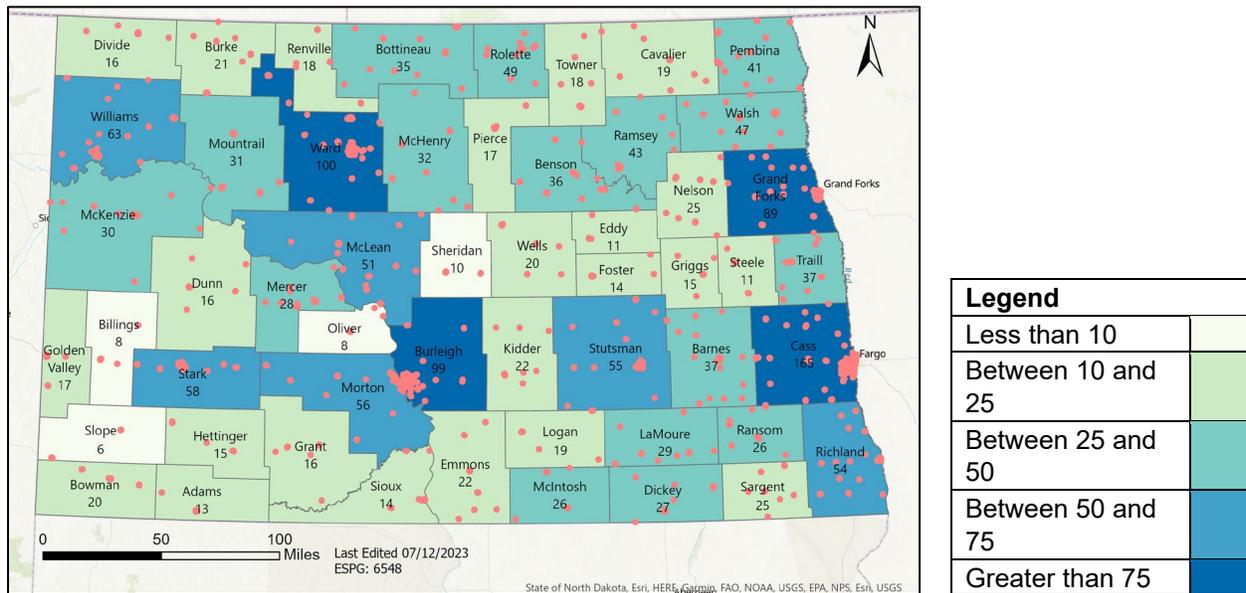
Figure 7: Computer ownership and Public Library Locations¹⁵⁴



North Dakota has identified over 1,700 community anchor institutions (CAIs), defined as a school, library, health clinic, health center, hospital or other medical provider, public safety entity, institution of higher education, public housing organization, state parks, or community support organization that facilitates greater use of broadband service by vulnerable populations, including, low-income individuals, unemployed individuals, children, the incarcerated, aging individuals, individuals with disabilities, and veterans. **Figure 8** shows the distribution of CAIs across North Dakota and the number of organizations within each county. Many of the organizations are in North Dakota’s urban centers such as Fargo, Grand Forks, Minot, and Bismarck, with fewer based in rural, less populated counties. CAIs require access to high-speed internet to properly support communities with critical services. As such, North Dakota seeks to provide 1 Gbps symmetrical speeds to CAIs to serve as a point of access for individuals living in rural areas.

¹⁵⁴ United States Census American Community Survey (published in 2021), Selected Social Characteristics 2021 5-Year Estimates. Accessed at: <https://data.census.gov/table?q=DP02&q=040XX00US38&tid=ACSDP5Y2021.DP02>.

Figure 8: Community Anchor Institutions by County¹⁵⁵



3.1.5 Broadband Affordability – Assets

Research shows that cost is a significant barrier to broadband adoption, especially for low-income households. According to a study by the NTIA, since 2001 cost has been the second most cited reason for internet non-use by offline households, with lack of interest being the first.¹⁵⁶ The relationship between cost and internet adoption has been well documented. A 2021 Pew Research Center study on internet use in the United States found that while only 8% of adults with annual household incomes of over \$75,000 did not have a home broadband subscription, 43% of adults with annual household incomes below \$30,000 did not have one.¹⁵⁷

The distribution of low-income populations can help inform broadband affordability initiatives. Based on 2021 ACS data, 18% of North Dakota’s population reports income levels that are 150% below the poverty level, which is 3 percentage points lower than the nation. However, certain counties have significantly higher percentages of low-income populations. Sioux, Benson, and Rolette counties, in particular, have relatively high percentages of low-income individuals, with 54%, 41%, and 40% of the population demonstrating income levels that are 150% below the poverty level, respectively.¹⁵⁸ While these three counties have high percentages of low-income individuals, the highest number of low-income individuals can be found in the most populous

¹⁵⁵ Community Anchor Institutions were identified using a variety of publicly available data sources.

¹⁵⁶ National Telecommunications and Information Administration (accessed on May 8, 2023), Switched Off: Why Are One in Five U.S. Households Not Online? Accessed at: <https://ntia.gov/blog/2022/switched-why-are-one-five-us-households-not-online>.

¹⁵⁷ Pew Research Center (published on April 7, 2021), Internet/Broadband Fact Sheet. Accessed at: <https://www.pewresearch.org/internet/fact-sheet/internet-broadband/#panel-2ab2b0be-6364-4d3a-8db7-ae134dbc05cd>.

¹⁵⁸ United States Census American Community Survey (published in 2021), Poverty Status in the Past 12 Months 5-Year Estimates. Accessed at: https://data.census.gov/table?q=poverty+characteristic+of+families&q=010XX00US_040XX00US38&tid=ACSST5Y2021.S1701.

counties in the state. In fact, 51% of North Dakota’s total low-income population resides in just four counties: Cass, Grand Forks, Burleigh, and Ward.

Broadband-related and device-related affordability programs focus on lowering the cost barrier to broadband adoption for low-income individuals. Currently, the largest affordability programs operating in North Dakota are ACP and Lifeline. Both ACP and Lifeline are federal programs administered by the Universal Service Administrative Company (USAC) and are available to North Dakotans through participating ISPs. Additionally, ND Assitive offers programs and a grant to help with the purchase of assistive technology devices. **Table 6** below provides additional details about the broadband and device affordability programs operating in North Dakota.

Table 6: Financial Assistance

| Name | Organization | Description |
|---------------------------------------|--|---|
| Affordable Connectivity Program (ACP) | Federal Communications Commission (FCC) | <p>83 internet service providers (ISPs) in North Dakota participate in ACP; the program provides a \$30 per month discount for broadband services for eligible consumers and a \$75 per month discount for broadband services for those living on qualifying Tribal Lands; it also provides a one-time device discount for eligible consumers of up to \$100 for a laptop, desktop computer, or tablet purchased through a participating provider with a consumer co-payment of more than \$10 or less than \$50; eligibility is determined based on household income or participation in certain government or Tribal assistance programs.¹⁵⁹</p> <p>Based on data from the Education SuperHighway, a national nonprofit organization focused on closing the digital divide, North Dakota’s ACP subscription rate is 11%; of the 114,650 eligible households, 12,438 are enrolled in the ACP program.¹⁶⁰</p> |
| Lifeline Program | Universal Service Administrative Company (USAC) ¹⁶¹ | <p>The program provides a discount on phone service, broadband internet service, or bundled voice-broadband packages purchased from participating wireline or wireless providers for qualifying low-income consumers in every state, territory, and commonwealth and on Tribal Lands.¹⁶²</p> <p>Based on data from the USAC, as of January 2023, North Dakota has 7,300 Lifeline subscribers and 69,433 eligible households, resulting in a participation rate of 11%.¹⁶³</p> |

¹⁵⁹ Federal Communications Commission (accessed on May 9, 2023), ACP Enrollment and Claims Tracker.

Accessed at: <https://www.usac.org/about/affordable-connectivity-program/ACP-enrollment-and-claims-tracker/>.

¹⁶⁰ Education SuperHighway (accessed on May 9, 2023), Affordable Connectivity Program Enrollment Dashboard.

Accessed at: <https://www.educationsuperhighway.org/no-home-left-offline/ACP-data/>.

¹⁶¹ Federal Communications Commission (accessed on May 5, 2023), Lifeline Program for Low-Income Consumers.

Accessed at: fcc.gov/general/lifeline-program-low-income-consumers.

¹⁶² Federal Communications Commission (accessed on May 17, 2023), Lifeline Support for Affordable

Communications. Accessed at: <https://www.fcc.gov/lifeline-consumers>.

¹⁶³ Federal Communications Commission (accessed on May 5, 2023), Lifeline Program Data. Accessed at:

<https://www.usac.org/lifeline/resources/program-data/>.

| | | |
|--|--------------|---|
| North Dakota Assistive Financial Loan Program | ND Assistive | The program assists individuals with disabilities with the purchase of assistive technologies (including computers and tablets) and training to use those technologies. ¹⁶⁴ |
| Possibilities Grant | ND Assistive | This grant is for the purchase of assistive technologies, including computer access tools, for individuals with disabilities or aging individuals who have assistive technology needs and expenses that are above and beyond what insurance and other funding programs will cover. ¹⁶⁵ |
| iCanConnect (also known as the National Deaf-Blind Equipment Distribution Program) | ND Assistive | This program provides free communications equipment to individuals with both vision and hearing loss in low-income households (those within 400% of the Federal Poverty Guidelines). ¹⁶⁶ |

3.2 Needs Assessment

According to the Digital Equity Act Population Viewer created by the U.S. Census Bureau and NTIA, 74% of North Dakota’s population belongs to at least one of the eight covered populations identified in the DE NOFO.¹⁶⁷

A summary of the baseline for each covered population group in North Dakota is provided in **Table 7** below.¹⁶⁸ Five-year estimates have larger samples and smaller margins of error and allow for more granular analysis of data at the county and census tract level.¹⁶⁹

The covered population baseline assessment reveals that the three largest covered populations are individuals who primarily reside in a rural area (45%), aging individuals (21%), and individuals living in low-income households (18%). Additionally, some degree of geographic overlap exists between various covered populations. For example, the three counties with the highest proportion of low-income individuals also rank in the top three for the highest proportion of racial or ethnic minorities (see **Figure 12** and **Figure 16** in **Section 3.2.2**).

¹⁶⁴ ND Assistive (accessed on May 10, 2023), North Dakota Assistive Financial Loan Program. Accessed at: <https://ndassistive.org/funding/at-financial-loan-program/>.

¹⁶⁵ ND Assistive (accessed on May 10, 2023), Possibilities Grant. Accessed at: <https://ndassistive.org/funding/possibilities-grant/>.

¹⁶⁶ ND Assistive (accessed on May 10, 2023), iCanConnect: Deaf-Blind Service. Accessed at: <https://ndassistive.org/icanconnect/>.

¹⁶⁷ U.S. Census Bureau and NTIA (accessed on May 22, 2023), Digital Equity Act Population Viewer. Accessed at: <https://mtgis-portal.geo.census.gov/arcgis/apps/MapSeries/index.html?appid=a0013a9dcbb9419e855f563d78e892ef>.

¹⁶⁸ The column “DE Population Viewer Estimates” was derived from the Digital Equity Act Population Viewer, which relies on population estimates from the 2019 ACS to evaluate the baseline of covered populations. Given that population estimates are often dynamic, the “Estimated Population,” “Total Base Population,” and “Percent” columns include data from the most recent ACS estimates (2021), which are 5-year estimates, as opposed to the 1-year estimates used in the Digital Equity Act Population Viewer.

¹⁶⁹ U.S. Census Bureau (accessed on May 22, 2023), Understanding and Using ACS Single-Year and Multiyear Estimates. Accessed at: https://www.census.gov/content/dam/Census/library/publications/2018/acs/acs_general_handbook_2018_ch03.pdf.

Table 7: Covered Population Baseline Summary¹⁷⁰

| | Covered Population | Estimated Population | Total Base Population* | Percent | DE Pop. Viewer Estimates** | DE Pop. Viewer National Estimates** |
|----|---|-----------------------------|-------------------------------|----------------|-----------------------------------|--|
| 1 | Individuals living in low-income households | 132,460 | 749,693 | 17.7% | 17.5% | 20.1% |
| 2 | Aging | 165,194 | 773,344 | 21.4% | 21.9% | 22.9% |
| 3 | Incarcerated | 1,817 | 773,344 | 0.2% | 0.4% | 0.6% |
| 4 | Veterans | 45,020 | 581,468 | 7.7% | 6.0% | 5.3% |
| 5 | Disabilities | 84,313 | 756,614 | 11.1% | 12.4% | 13.3% |
| 6a | Language Barrier: English Learners | 13,809 | 719,927 | 1.9% | 1.9% | 8.4% |
| 6b | Language Barrier: Low Literacy*** | N/A | N/A | N/A | 13.4% | 21.6% |
| 7 | Racial/Ethnic Minority Group | 116,760 | 773,344 | 15.1% | 16.4% | 40.6% |
| 8 | Rural | 347,162 | 773,344 | 44.9% | 44.9% | 28.5% |

¹⁷⁰ Notes regarding the Covered Population Baseline Summary:

1. The data presented is sourced from the American Community Survey (ACS) 2021 5-Year Estimates, unless indicated otherwise.
2. The methodology used to calculate the internal estimates for the low-income covered population group are different than that used by the DE Population Viewer. Since the ACS does not provide an estimate for the number of individuals living in households with incomes below 150% of the poverty level, the internal data was derived using estimates of the number of individuals with incomes below 150% of the poverty level.
3. Estimates for the incarcerated population were taken from the North Dakota Department of Rehabilitation and can be accessed at: <https://www.docr.nd.gov/sites/www/files/documents/statistics/factsheets/2022%2012%2031%20FACT%20SHEET.pdf>.

*The column 'Total Base Population' consists of the population against which the estimate has been compared, which may be different for different studies and measures in the ACS.

** The Digital Act Population Viewer was created by the US Census Bureau and the NTIA and relies on ACS 2019 1-year estimates. It can be accessed at: <https://mtgis-portal.geo.census.gov/arcgis/apps/MapSeries/index.html?appid=a0013a9dcbb9419e855f563d78e892ef>.

***Percent estimate for Low Literacy was not calculated internally and was taken from the Digital Equity Act Population Viewer, which uses data from the Program for the International Assessment of Adult Competencies (PIAAC) along with ACS 2019 1-Year Estimates.

| | | | | | |
|--------------------------------|-----|-----|-----|-------|-------|
| Percentage of total population | N/A | N/A | N/A | 74.0% | 81.5% |
|--------------------------------|-----|-----|-----|-------|-------|

The discussion below explores the barriers to digital equity faced by identified covered populations in North Dakota. As detailed in **Section 3.2.1**, seven specific barriers that impact one or more of North Dakota’s covered populations have been identified through research and stakeholder engagement. These barriers fall into two categories: (1) access to broadband and devices and (2) skills needed to fully take advantage of the internet.

Section 3.2.2 explores the needs and barriers surrounding broadband adoption in the state as a whole and for the eight identified covered populations. While 97% of the state has access to broadband service, 84% of households have an internet subscription.¹⁷¹ Of the 267,000 North Dakotan households that still lack a broadband subscription, certain groups are more heavily impacted, including low-income individuals and aging populations, as explained in greater detail below.⁵ Finally, **Section 3.2.3** examines the barrier of broadband affordability through the lens of individuals’ participation in ACP, including statewide patterns of ACP participation.

3.2.1 Covered Population Needs Assessment

The following table (**Table 8**) maps barriers to digital equity against the impacted covered population in North Dakota. Beneath the table, each barrier is explained in greater detail. Covered populations were aligned to barriers through the stakeholder interview process. If the barrier was mentioned in an interview for a specific population, it was included in this table.¹⁷²

¹⁷¹ United States Census American Community Survey (published in 2021), Selected Social Characteristics 2021 5-Year Estimates. Accessed at: https://data.census.gov/table?q=dp02&q=010XX00US_040XX00US38&tid=ACSDP5Y2021.DP02.
¹⁷² Note: Barriers were aligned to impacted covered populations only if they were mentioned in an interview. It is likely that these barriers also impact additional covered populations.

Table 8: Covered Population Needs Assessment Based on Stakeholder Insights – Summary

| Barrier to Digital Equity | | Covered Population | | | | | | | |
|---|--|--------------------|-------|--------------|-------------------------------|----------|--------------------------------|------------------------|-------|
| | | Low-Income | Aging | Incarcerated | Individuals with Disabilities | Veterans | Language Barrier/ Low Literacy | Racial/Ethnic Minority | Rural |
| Name and Description (including associated need, if applicable) | | | | | | | | | |
| Access | | | | | | | | | |
| 1 | Cost of broadband subscriptions | X | X | X | X | X | X | X | X |
| 2 | Lack of high-speed broadband infrastructure | X | | | | | | X | X |
| 3 | Cost of digital devices | X | X | | X | X | | | X |
| Skills | | | | | | | | | |
| 4 | Lack of digital skills | | X | | X | X | | X | X |
| 5 | Lack of cybersecurity training and awareness | | X | X | X | | | | X |
| 6 | Lack of user-friendly interfaces (device and/or internet applications) | | X | | X | X | | | |
| 7 | Reluctance to adopt high-speed broadband | | X | | X | | | X | X |

Barrier #1 – Cost of Broadband Subscriptions

The cost of broadband subscriptions presents a significant barrier to digital equity in North Dakota. According to numerous stakeholders, this issue impacts all of the state’s covered populations. It was identified as a barrier during the Low-Income, Disability Services, Veterans, and Rural Economic Development Focus Groups. Additionally, it was identified by stakeholders operating in the corrections space, supporting aging populations, serving individuals with disabilities, and higher education organizations.

While ACP exists to offer discounts to qualifying households, these households must enroll in the program to realize the benefits. North Dakota’s ACP enrollment rate of 11% is well below the national average (34%), based on Education SuperHighway estimates.¹⁷³ Although the exact causes of the low subscription rate in the state are unclear, they can be partially attributed to limited awareness of the program, the perception that the discounted cost still exceeds the value of broadband access, or both. Hence, the present cost of broadband subscription coupled with low ACP enrollment rates remains a considerable challenge for North Dakota.

Barrier #2 – Lack of High-Speed Broadband Infrastructure

The lack of high-speed broadband infrastructure is another challenge for digital equity, as it prevents certain areas of North Dakota from having access to the internet entirely. Western parts of the state have a higher number of unserved and underserved locations, particularly in counties that overlap with Tribal Lands (as explained in greater detail in the State’s BEAD Plan). This data analysis aligned with the observations of multiple stakeholders. A participant in the Rural

¹⁷³ Education SuperHighway (accessed on May 9, 2023), Affordable Connectivity Program Enrollment Dashboard. Accessed at: <https://www.educationsuperhighway.org/no-home-left-offline/acp-data/>.

Economic Development Focus Group, an institution of higher education, and an organization representing ISPs all identified this barrier impacting individuals living in rural areas and individuals living on Tribal Lands. Additionally, a stakeholder in the Low-Income Focus Group identified infrastructure as a core challenge for low-income individuals, particularly the homeless population. Without this infrastructure, these individuals are automatically at a disadvantage with respect to achieving digital equity.

Barrier #3 – Cost of Digital Devices

The cost of digital devices needed to access the internet poses an additional barrier to digital equity throughout the state for multiple covered populations. This barrier was corroborated by insights from stakeholders represented in the Low-Income, Senior Services, Disability Services, Veterans, and Rural Economic Development Focus Groups. While it is becoming increasingly accepted that broadband access is essential, it is equally important to have appropriate devices, such as computers, laptops, or smartphones, to connect to and utilize online resources. Unfortunately, these devices can be expensive, making them unaffordable for North Dakotan households with limited financial means. Outdated technology tends to excessively lag and often does not properly communicate with modern applications or online services, causing user-end frustration and furthering high speed internet adoption hesitancy within the state. Some community centers and libraries offer short-term device-lending programs (see **Table 5** above) and a handful of programs in the state provide financial assistance for devices for low-income individuals, individuals with disabilities, and aging individuals (see **Table 6** above). However, the cost associated with digital devices is still a significant hurdle.

Barrier #4 – Lack of Digital Skills

The lack of digital skills represents an additional barrier to achieving widespread digital equity throughout North Dakota. While the State has made significant strides to expand broadband infrastructure, it remains crucial to ensure North Dakotans – especially covered populations – possess the requisite skills to effectively use and benefit from broadband services. Limited digital skills hinder broadband adoption by impeding individuals' understanding of technology. This results in hesitancy and lack of confidence with respect to using digital tools, which ultimately affects access to and utilization of critical online resources (e.g., education, e-commerce, and telehealth). The digital skills gap is particularly pronounced for aging individuals, veterans, individuals with disabilities, racial/ethnic minorities, and individuals living in rural areas, as noted by numerous stakeholders (including those participating in the Veterans and Rural Economic Development Focus Groups, those promoting workforce development, those representing aging individuals, and an organization representing individuals with disabilities, including aging individuals with disabilities).

The State has identified 21 digital skills and awareness programs that exist throughout North Dakota (see **Table 4** above). Several of the identified programs benefit the state's population at large, while a number of the programs specifically target one or more of the covered populations. A closer examination of the programs reveals the number of programs that benefit each covered population, as follows (note that more than one covered population may benefit from a program):

- Low-income individuals – 0 programs
- Aging individuals – 6 programs
- Incarcerated individuals – 1 program
- Individuals with disabilities – 5 programs

- Veterans – 0 programs
- Individuals with a language barrier or low literacy – 1 program
- Racial or ethnic minorities – 1 program
- Individuals living in a rural area – 4 programs

A critical component with respect to developing digital skills is an awareness of the benefits that come with broadband adoption. While North Dakota’s broadband infrastructure and availability have significantly improved over time, some underrepresented populations remain unaware of the benefits and opportunities that high-speed internet access offers. Limited awareness can prevent North Dakotans from understanding the positive impact broadband can have on communication, civic engagement, education, healthcare, and economic opportunities. According to stakeholders representing covered populations, North Dakotans that are unaware of the benefits have not prioritized adopting broadband or remain unmotivated to seek available options. Thus, the lack of digital skills amongst covered populations remains a considerable challenge.

Barrier #5 – Lack of Cybersecurity Training and Awareness

The lack of cybersecurity training and awareness presents another barrier to achieving digital equity in North Dakota. As technology becomes increasingly integrated into various aspects of daily life, individuals within covered populations are often untrained in cybersecurity practices and may face heightened risks and vulnerabilities. Without proper cybersecurity training, individuals may fall prey to online scams, phishing attacks, identity theft, or other cyber threats. Additionally, lack of awareness about safe online practices and the importance of securing personal information can lead to a reluctance to engage in digital activities, hindering access to critical online resources and services. While many of the digital skills and awareness programs identified in the Plan’s asset inventory may have cybersecurity as part of their curriculum (see **Table 4** above), only four of those assets specifically identify cybersecurity as part of their labels/names.

According to the Senior Services Focus Group and an organization representing individuals with disabilities (including aging individuals with disabilities), the fear of scams amongst elderly North Dakotans and those with disabilities has resulted in a general unwillingness to engage in online activities. A stakeholder in the Disability Services Focus Group also identified cybersecurity concerns as a barrier for individuals with disabilities. The Rural Economic Development Focus Group identified cybersecurity concerns as a barrier to adoption that impacts individuals living in rural areas. Moreover, a stakeholder operating in the corrections space identified cybersecurity as a critical weakness. This stakeholder cited a lack of technical knowledge to hedge security risks as a key barrier for both incarcerated persons and employees. Hence, the myriad of challenges associated with a lack of cybersecurity training and awareness remains problematic for digital equity.

Barrier #6 – Lack of User-Friendly Interfaces (Device and/or Online Applications)

Another barrier to digital equity in North Dakota is the lack of user-friendly interfaces, both with respect to devices and online applications. While individuals might want to access the internet for work, school, government services, or many other reasons, a device or application that is not intuitive may be a significant roadblock that discourages and even prevents individuals from using the internet. A stakeholder in the Senior Services Focus Group stated that current accessibility features of devices could be more apparent when aging individuals initially turn on these devices. While there are accessibility features available on many devices, if users do not know how to navigate to them, they are unhelpful. A stakeholder in the Disability Services Focus Group noted that this barrier impacts individuals with disabilities, as some advanced technology along with

websites do not yet address the needs of this population. Finally, a stakeholder in the Veterans Focus Group noted that phone text can often be too small for people to see, which makes phone use challenging. While some programs (particularly those offered by non-profits focused on disability support) attempt to address this issue, it continues to be a hurdle for digital equity throughout the state.

Barrier #7 – Reluctance to Adopt High-Speed Broadband

Regardless of whether individuals have broadband access and possess basic digital skills, certain populations remain reluctant to adopt high-speed internet. This reluctance is often due to negative perceptions about using the internet or otherwise a lack of interest in using it. This was corroborated by multiple stakeholder insights. A stakeholder representing rural industry and a stakeholder in the Rural Economic Development Focus Group both identified this as a barrier impacting individuals living in rural areas. A stakeholder in the Rural Economic Development Focus Group also pointed out that some Tribal Entities have access to the internet, but may be reluctant to use it. Finally, an organization representing individuals with disabilities (including aging individuals with disabilities) shared that due to the complexity of technology, these populations may be reluctant to engage with the internet.

While addressing the barriers that prevent access and effective use of the internet may increase interest in broadband usage by these populations, this barrier likely will remain an underlying factor for broadband adoption for these populations that will need to be addressed.

3.2.2 Broadband Adoption – Needs and Barriers

According to data from the 2021 American Community Survey (ACS), 84% of households in North Dakota have a broadband subscription and 92% of households own a computer. A closer look at the data reveals that broadband subscription rates vary by county and certain counties, especially ones with a large proportion of the population residing on Tribal Lands such as Benson, Sioux, and Sheridan, have broadband subscription rates of less than 72%. These counties rank 53rd, 51st, and 50th in the state for broadband adoption, respectively (see **Table 9** for a breakdown of broadband adoption rates by county). This section will focus on understanding where the disparities in broadband adoption exist in the state and whether any underlying patterns and trends exist. The purpose of this analysis is to understand the broadband adoption needs in the state, especially as they relate to the different covered populations.

As mentioned above, North Dakota's statewide broadband subscription rate is 84%, which is 3 percentage points lower than the national broadband subscription rate of 87%. This positions North Dakota as 41st in the nation in terms of broadband subscription rates.¹⁷⁴ **Table 9** and **Figure 10** below illustrate the percentage of households with broadband subscriptions in North Dakota by county along with the number of households without a broadband subscription.

¹⁷⁴ United States Census American Community Survey (published in 2021), Selected Social Characteristics 2021 5-Year Estimates. Accessed at: https://data.census.gov/table?q=dp02&g=010XX00US_040XX00US38&tid=ACSDP5Y2021.DP02. The ranking was derived using the Selected Social Characteristics ACS table.

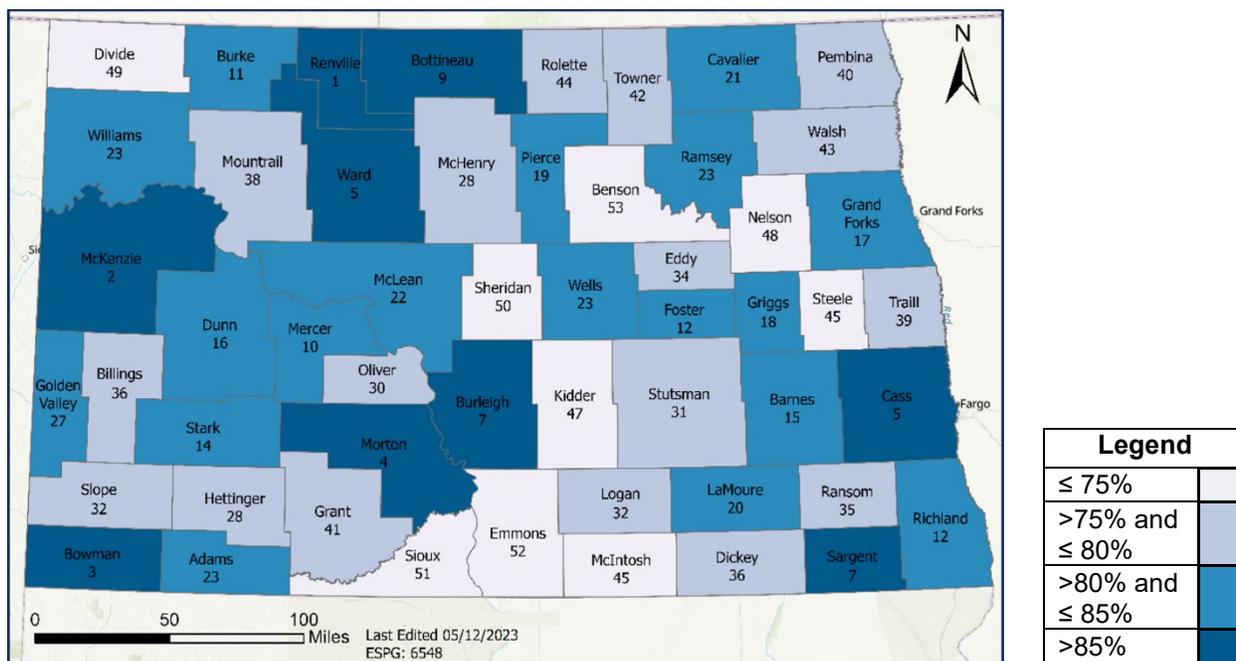
Table 9: Broadband Subscription Rates by County (from lowest to highest)¹⁷⁵

| County | Broadband Subscription Rate | Number of Households without Broadband | County | Broadband Subscription Rate | Number of Households without Broadband |
|---------------|-----------------------------|--|---------------------|-----------------------------|--|
| Benson | 68.8 | 592 | Adams | 81.1 | 189 |
| Emmons | 70.3 | 447 | Ramsey | 81.1 | 929 |
| Sioux | 70.7 | 311 | Wells | 81.1 | 344 |
| Sheridan | 71.8 | 176 | Williams | 81.1 | 2,884 |
| Divide | 71.9 | 256 | McLean | 81.3 | 768 |
| Nelson | 72.9 | 357 | Cavalier | 81.5 | 288 |
| Kidder | 73.1 | 280 | LaMoure | 81.9 | 313 |
| McIntosh | 74.9 | 307 | Pierce | 82.4 | 294 |
| Steele | 74.9 | 195 | Griggs | 82.8 | 159 |
| Rolette | 75.5 | 905 | Grand Forks | 83 | 5,249 |
| Walsh | 76 | 1,085 | Dunn | 83.3 | 247 |
| Towner | 76.1 | 234 | Barnes | 83.7 | 788 |
| Grant | 76.8 | 245 | Stark | 84.1 | 2,083 |
| Pembina | 77 | 677 | Foster | 84.3 | 229 |
| Traill | 77.5 | 736 | Richland | 84.3 | 1,047 |
| Mountrail | 77.9 | 768 | Burke | 84.4 | 141 |
| Billings | 78 | 67 | Mercer | 84.5 | 546 |
| Dickey | 78 | 427 | Bottineau | 85.5 | 376 |
| Ransom | 78.1 | 505 | Burleigh | 86.3 | 5,389 |
| Eddy | 78.8 | 223 | Sargent | 86.3 | 244 |
| Logan | 79 | 162 | Cass | 87.7 | 9,611 |
| Slope | 79 | 67 | Ward | 87.7 | 3,446 |
| Stutsman | 79.2 | 1,886 | Morton | 87.8 | 1,613 |
| Oliver | 79.3 | 142 | Bowman | 88.1 | 142 |
| Hettinger | 79.8 | 209 | McKenzie | 88.2 | 580 |
| McHenry | 79.8 | 471 | Renville | 89.8 | 87 |
| Golden Valley | 80.3 | 142 | North Dakota | 84.2 | 49,858 |

¹⁷⁵ Notes regarding Table 14:

1. Data is sourced from the United States Census American Community Survey (published in 2021), Selected Social Characteristics 2021 5-Year Estimates. Accessed at: https://data.census.gov/table?q=DP02&q=040XX00US38&tid=ACSDP5Y2021_DP02.
2. The ACS data classifies households as having a broadband subscription if the survey respondent answers yes when asked if “any member of the household [has] accessed the Internet by paying a cell phone company or Internet service provider.”

Figure 9: Percentage of Households with a Broadband Subscription and Ranking by County¹⁷⁶



The following discussion delves deeper into the ACS data presented in **Table 8** and **Figure 10** above and highlights potential drivers of inequities in broadband adoption based on the relationship between covered populations, broadband availability, and broadband subscription rates. In North Dakota, close to 50,000 households do not have a broadband subscription.¹⁷⁷ Cass, Burleigh, and Grand Forks counties contain 41% of the total number of households without a broadband subscription, which is expected given the high population density of these counties compared to the rest of the state.

A county-level analysis of the percentage of households without a broadband subscription uncovers important insights about the underlying trends related to low broadband adoption. As indicated in **Table 9**, Benson, Emmons, and Sioux counties have the lowest percentage of households with a broadband subscription, with rates that fall 15, 14, and 13 percentage points below the statewide rate of 84%, respectively. Even though Emmons and Sioux counties have low broadband subscription rates, they both have high levels of broadband availability, with over 95% of residential BSLs served at 100/20 Mbps (see **Table 10** below). A possible explanation for this includes the relatively high proportions of at least one covered population group in these counties. Emmons County ranks 5th in North Dakota for the highest proportion of aging individuals (see **Figure 13** below). Similarly, Sioux County ranks 1st for both the highest proportion of low-income individuals and racial or ethnic minorities (see **Figure 12** below).

¹⁷⁶ United States Census American Community Survey (published in 2021), Selected Social Characteristics 2021 5-Year Estimates. Accessed at: <https://data.census.gov/table?q=DP02&q=040XX00US38&tid=ACSDP5Y2021.DP02>.

¹⁷⁷ United States Census American Community Survey (published in 2021), Selected Social Characteristics 2021 5-Year Estimates. Accessed at: <https://data.census.gov/table?q=DP02&q=040XX00US38&tid=ACSDP5Y2021.DP02>.

In contrast to Emmons and Sioux counties, Benson County is ranked last for broadband subscription rates. Furthermore, in Benson County, only 75% of residential BSLs are served at 100/20 Mbps, placing it 52nd among all counties in the state. One possible explanation may include the relatively high number of covered populations, as the county ranks 2nd for low-income individuals and individuals with a language barrier and 3rd for racial or ethnic minorities.

Table 10 summarizes the analysis above by providing an overview of the relationship between broadband adoption, broadband availability, and presence of low-income and aging covered populations. The table includes the 3 counties with the highest broadband subscription rates and the 3 counties with the lowest broadband subscription rates.

Table 10: Broadband Subscription Rates vs. Key Indicators¹⁷⁸

| County | % Of Households with a Broadband Subscription | % Residential BSLs Served at 100/20 | Ranking of counties with the highest low-income population | Ranking of counties with the highest aging population | Population Density |
|----------|---|-------------------------------------|--|---|--------------------|
| Renville | 89.8% | 90.24% | 50 | 41 | 2.7 |
| McKenzie | 88.2% | 81.11% | 8 | 52 | 5.0 |
| Bowman | 88.1% | 100.00% | 41 | 22 | 2.6 |
| Sioux | 70.7% | 95.65% | 1 | 53 | 3.7 |
| Emmons | 70.3% | 100% | 22 | 5 | 2.2 |
| Benson | 68.8% | 75.10% | 2 | 45 | 4.4 |

Renville, McKenzie, and Bowman counties have the highest broadband subscription rates in the state, surpassing the statewide rate of 84% by 5.6, 4.0, and 3.9 percentage points, respectively. Renville County has the highest broadband subscription rate of any county at 90%, but ranks 40th in terms of residential broadband availability. A possible explanation for this is that Renville County does not have a high proportion of any covered population group other than veterans. Bowman County is similar to Renville in that it has high subscription rates and low proportions of covered populations; however, unlike Renville, Bowman County demonstrates high levels of broadband availability. McKenzie County is unique in that it has high broadband subscription rates despite having lower levels of broadband access as well as high proportions of low-income individuals, racial and ethnic minorities and individuals with a language barrier. Overall, an evaluation of broadband subscription rates in tandem with broadband availability suggests that a strong link does not exist between the two variables in North Dakota.

A correlation analysis demonstrates a relationship between the size of certain covered populations (e.g., low-income populations) and low broadband subscription rates. In fact, of the top ten counties with the lowest broadband subscription rates, all but one rank in the top ten for the highest proportion of low-income individuals or aging individuals. A correlation analysis corroborates this observed relationship between the population of aging individuals and low subscription rates, with a statistically significant coefficient of -0.48.¹⁷⁹ Notably, the analysis also found that the percentage of individuals with disabilities and racial and ethnic minorities each had a negative relationship with broadband subscription rates that was statistically significant. For a

¹⁷⁸ Data for Table 15 was sourced from Version 2 of the FCC BDC Map and ACS 2021 5-Year Estimates.

¹⁷⁹ P-value was statistically significant at the 0.05 significance level.

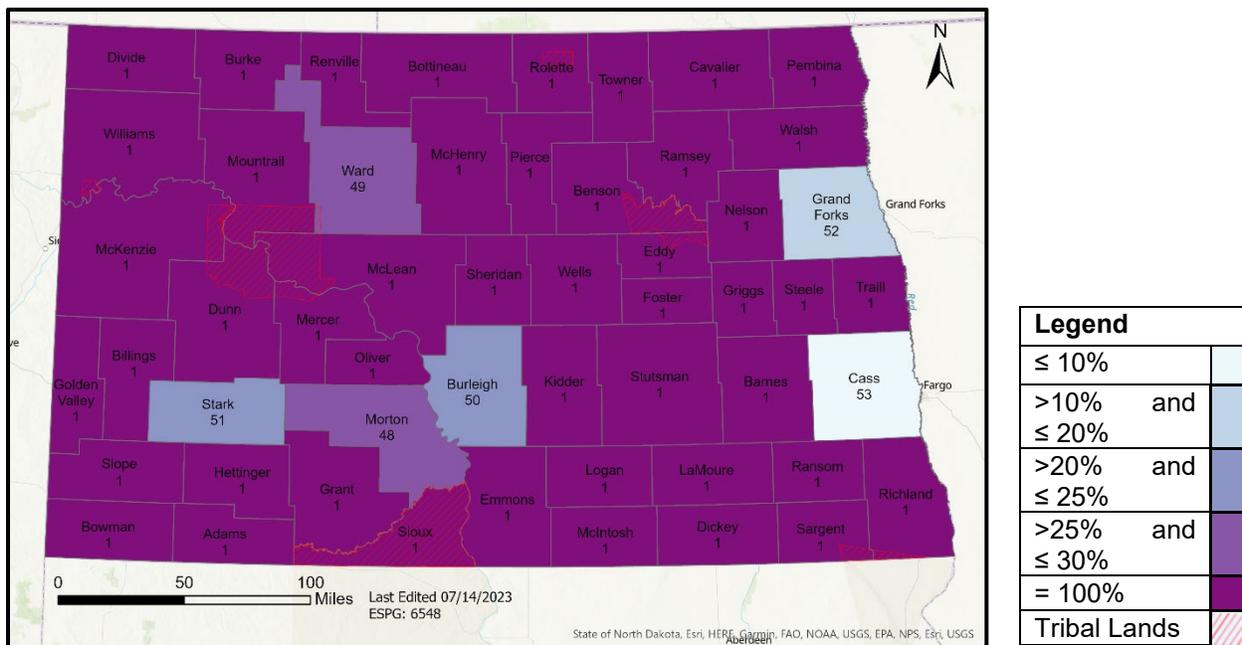
visualization of the different covered populations and their distribution in North Dakota see **Figures 11, 12, 13, 14, 15, 16, 17, and 18** below.

Covered Population Geographic Distribution

The discussion below highlights the geographic distribution of the covered populations in North Dakota. Historically, covered populations have been the most vulnerable to disparities in broadband adoption. Understanding their distribution in the state can help highlight digital inclusion opportunities.

Figure 11 below illustrates North Dakota’s rural population on a county basis. Research suggests that a disparity in home broadband adoption exists between rural and urban North Dakotans. A similar trend exists in North Dakota where, on average, less populated counties have lower broadband subscription rates compared to more densely populated counties. The average broadband subscription rate for counties with populations of less than 3,000 was 79%, compared to 83% for counties with populations greater than 10,000. However, it is important to highlight that certain rural counties lead the state in terms of broadband adoption. For instance, Renville County, despite having a population of only 2,283, has the highest broadband subscription rate, at 90%. Similarly, Bowman and Sargent counties rank in the top six for highest broadband subscription rates but have populations of less than 4,000. This may be explained by the relatively low numbers of other covered populations within these counties.

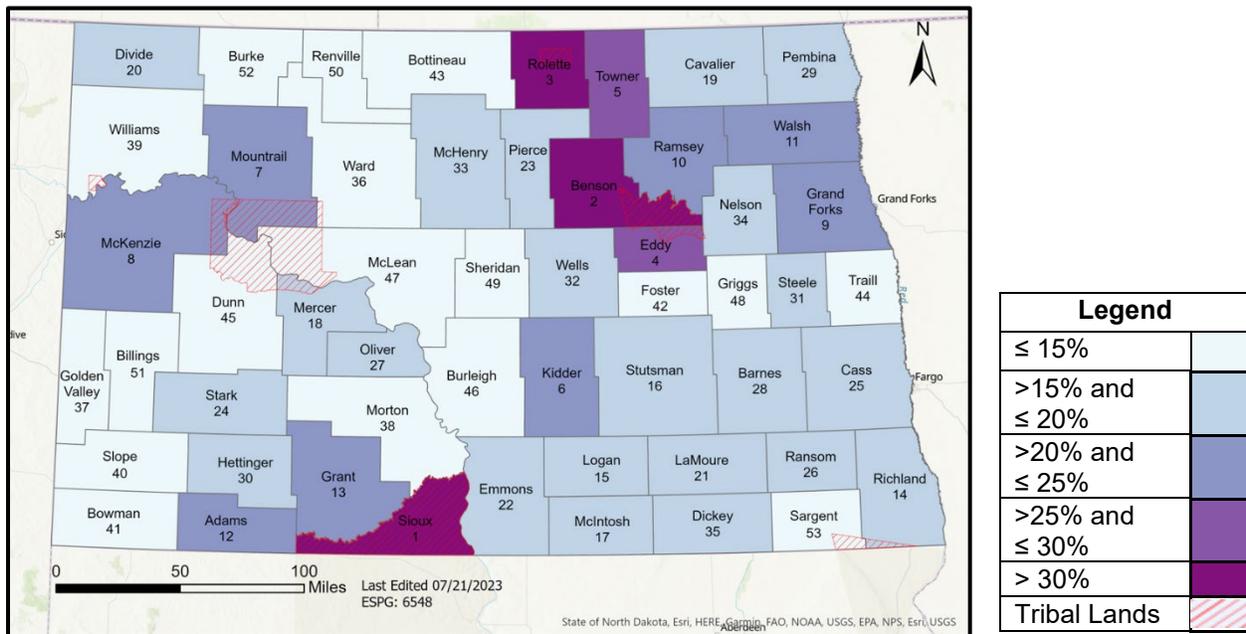
Figure 10: Percentage of Rural Population by County¹⁸⁰



¹⁸⁰ United States Census Bureau (published in 2021), Total population by county. Accessed at: [https://data.census.gov/table?t=Population+Total&q=040XX00US38.38\\$0500000](https://data.census.gov/table?t=Population+Total&q=040XX00US38.38$0500000).

In total, close to 18% of North Dakota's population has incomes that fall below 150% of the Federal Poverty Level (see **Figure 12** below). The counties with the highest percentages of low-income individuals are Sioux, Benson, and Rolette with 54%, 41%, and 40% of their population consisting of low-income individuals, respectively. These three counties also contain Tribal Entities within their borders. Counties with higher percentages of low-income populations are clustered in the Northeastern and Southwestern parts of the state. Additionally, as explored in the analysis above, counties with high proportions of low-income individuals correspond to counties with lower levels of broadband adoption. The three counties with the highest proportions of covered populations, Sioux, Benson, and Rolette, also rank 53rd, 51st, and 44th in terms of broadband subscription rates in the state.

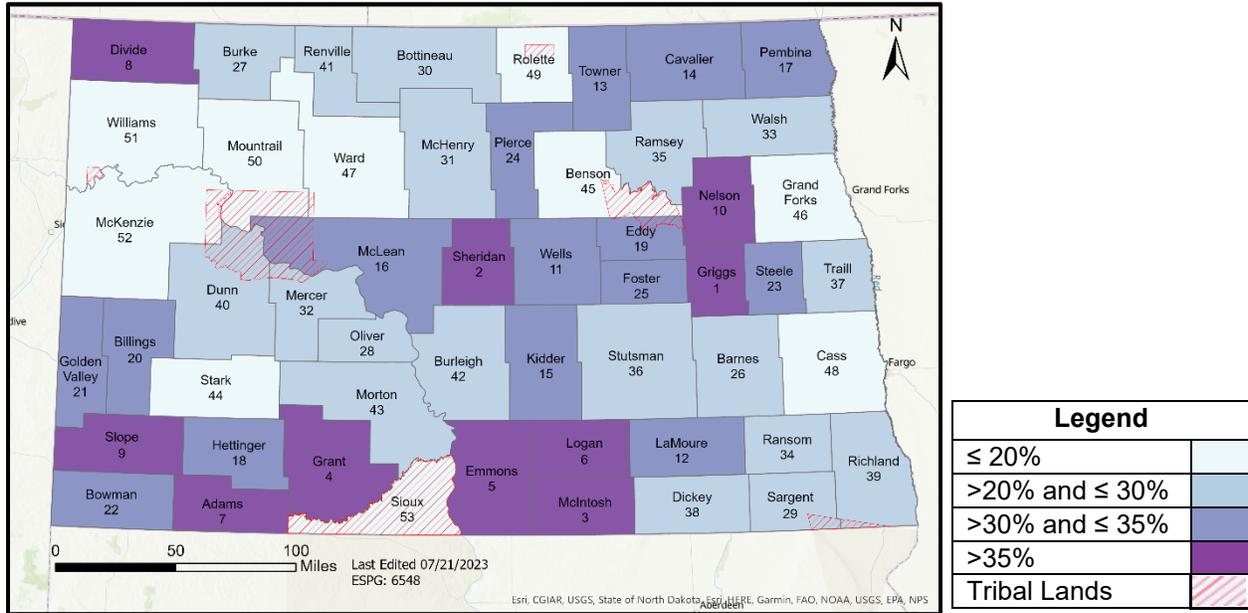
Figure 11: Percentage of Low-Income Individuals by County¹⁸¹



¹⁸¹ United States Census American Community Survey (published in 2021), Poverty Status in The Past 12 Months 2021 5-Year Estimates. Accessed at: [https://data.census.gov/table?q=poverty+characteristic+of+families&q=040XX00US38.38\\$0500000&tid=ACSS5Y2021.S1701](https://data.census.gov/table?q=poverty+characteristic+of+families&q=040XX00US38.38$0500000&tid=ACSS5Y2021.S1701).

Approximately 21% of the state’s population is aged 60 or above, making aging individuals the second largest covered population in the state. **Figure 13** below indicates that Griggs, Sheridan, and McIntosh counties have the highest aging population in the state with approximately 40% of their population aged 60 and above. Additionally, Griggs, Sheridan and McIntosh rank 18th, 50th and 45th in the state in terms of broadband subscription rates. **Section 3.2.1** further explores the barriers to broadband adoption faced by the aging populations in North Dakota.

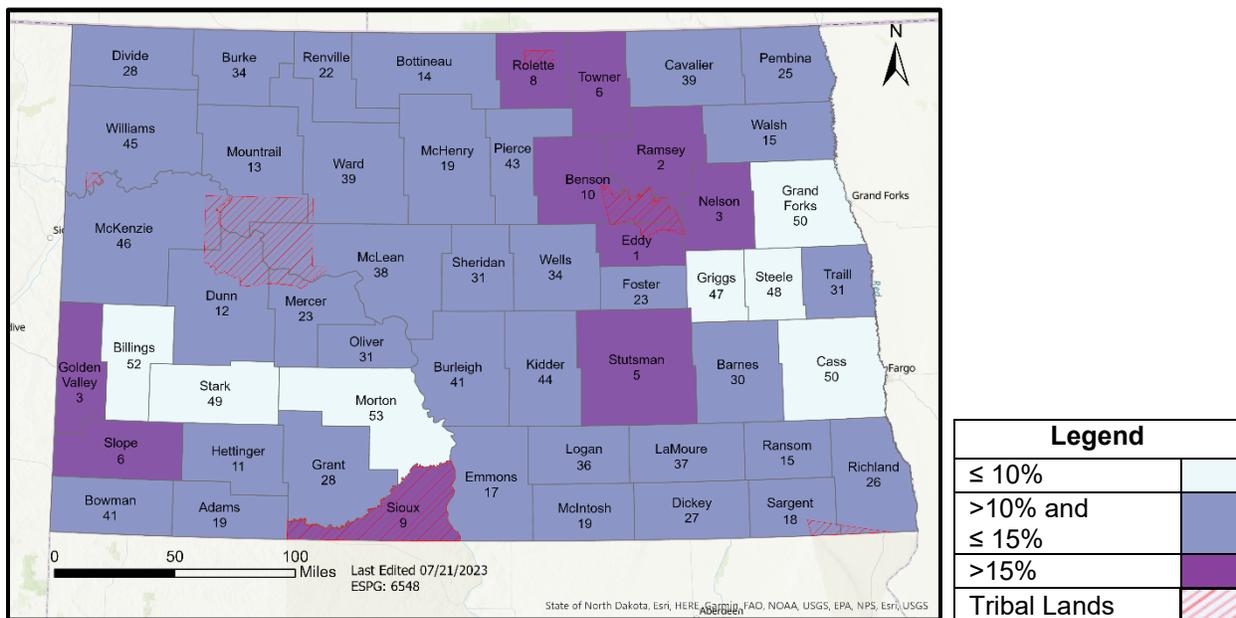
Figure 12: Percentage of Individuals Aged 60 and Above¹⁸²



¹⁸² United States Census American Community Survey (published in 2021), ACS Demographic and Housing Estimates 2021 5-Year Estimates. Accessed at: [https://data.census.gov/table?q=dp05&g=040XX00US38_38\\$0500000&tid=ACSDP5Y2021.DP05](https://data.census.gov/table?q=dp05&g=040XX00US38_38$0500000&tid=ACSDP5Y2021.DP05).

Individuals with disabilities account for 11% of North Dakota’s population. Counties with the highest percentages of these individuals are Eddy (20%), Ramsey (19%) and Golden Valley (18%) as seen in **Figure 14** below. Additionally, these three counties rank 34th, 23rd, and 27th in terms of broadband subscription rates. As mentioned above, a correlation analysis between broadband subscription and the percentage of the population that represents individuals with disabilities yielded a correlation coefficient of -0.34, indicating that a statistically significant negative relationship exists between the two variables. This relationship is supported by research conducted by the Department of Labor, which found that Americans with disabilities are less likely to have an internet subscription at home compared to the rest of the population.¹⁸³ Additionally, even when individuals with disabilities have access to broadband at home, they are less likely than those without a disability to use the internet for a variety of reasons. **Section 3.2.1** further explores the barriers to broadband adoption faced by this population in North Dakota.

Figure 13: Percentage of Individuals with Disabilities by County¹⁸⁴

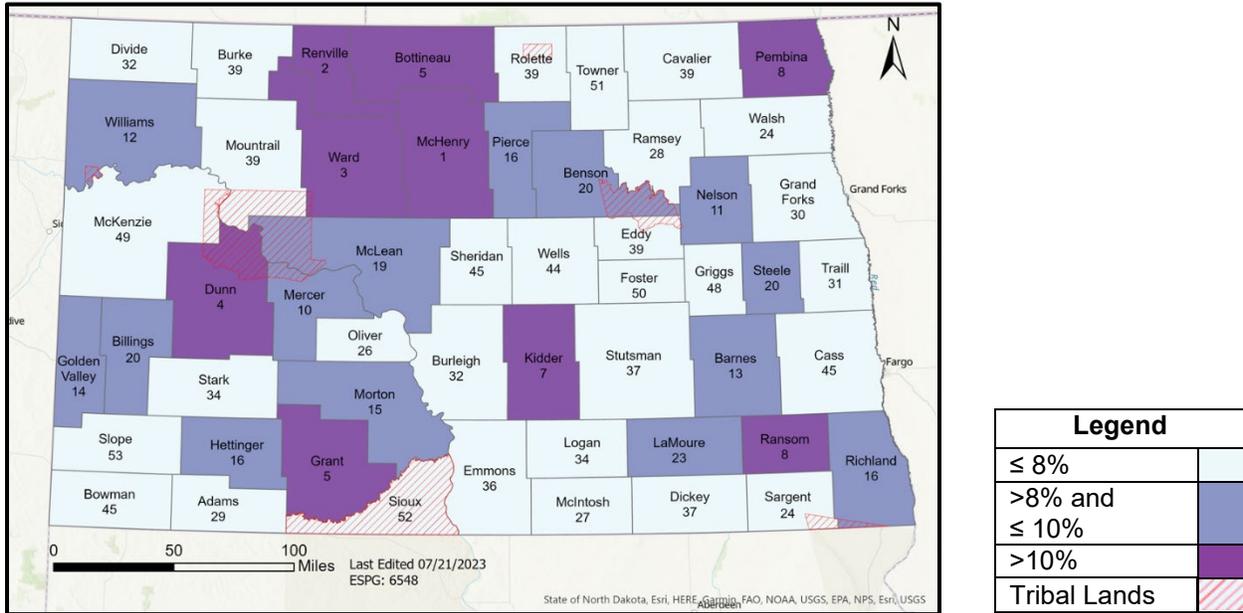


¹⁸³ Department of Labor (published in June 2022), Disability and the Digital Divide: Internet Subscriptions, Internet Use and Employment Outcomes. Accessed at: <https://www.dol.gov/sites/dolgov/files/ODEP/pdf/disability-digital-divide-brief.pdf>.

¹⁸⁴ United States Census American Community Survey (published in 2021), ACS Demographic and Housing Estimates 2021 5-Year Estimates. Accessed at: [https://data.census.gov/table?q=dp05&g=040XX00US38_38\\$0500000&tid=ACSDP5Y2021.DP05](https://data.census.gov/table?q=dp05&g=040XX00US38_38$0500000&tid=ACSDP5Y2021.DP05).

The total veteran population in North Dakota is close to 8%. **Figure 15** below demonstrates that the counties with the largest veteran populations include McHenry (12.5%), Renville (12.2%), and Ward (11.7%). These three counties rank 28th, 1st, and 5th in terms of broadband subscription rates.

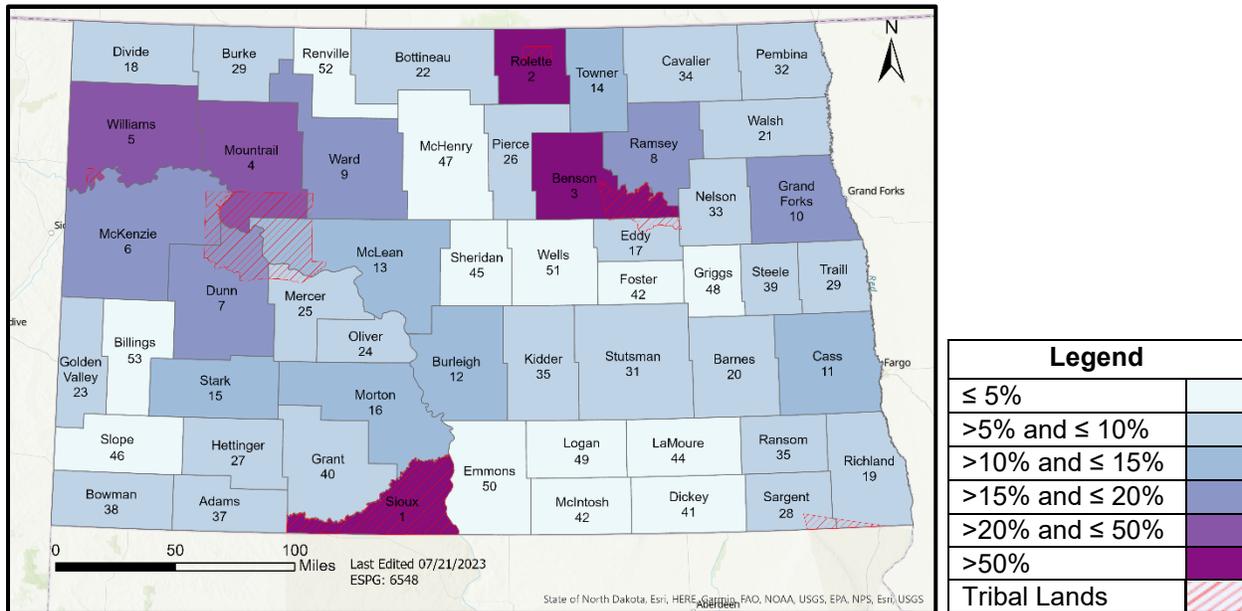
Figure 14: Percentage of Veterans by County¹⁸⁵



¹⁸⁵ United States Census American Community Survey (published in 2021), ACS Demographic and Housing Estimates 2021 5-Year Estimates. Accessed at: [https://data.census.gov/table?q=dp05&g=040XX00US38_38\\$0500000&tid=ACSDP5Y2021.DP05](https://data.census.gov/table?q=dp05&g=040XX00US38_38$0500000&tid=ACSDP5Y2021.DP05).

In total, 15% of North Dakota’s population is part of the racial or ethnic minority covered population group as seen in **Figure 16** below. While the majority of counties in North Dakota have racial and ethnic minority populations of less than 10%, a few counties in the state have higher percentages. Specifically, Sioux, Rolette, and Benson counties have the highest percentages of racial or ethnic minorities at 89%, 83%, and 62%, respectively and rank 53rd, 51st, and 44th in terms of broadband subscription rates. A correlation analysis indicates a statistically significant correlation coefficient of -0.30, indicating a weak negative relationship between this covered population and subscription rates.

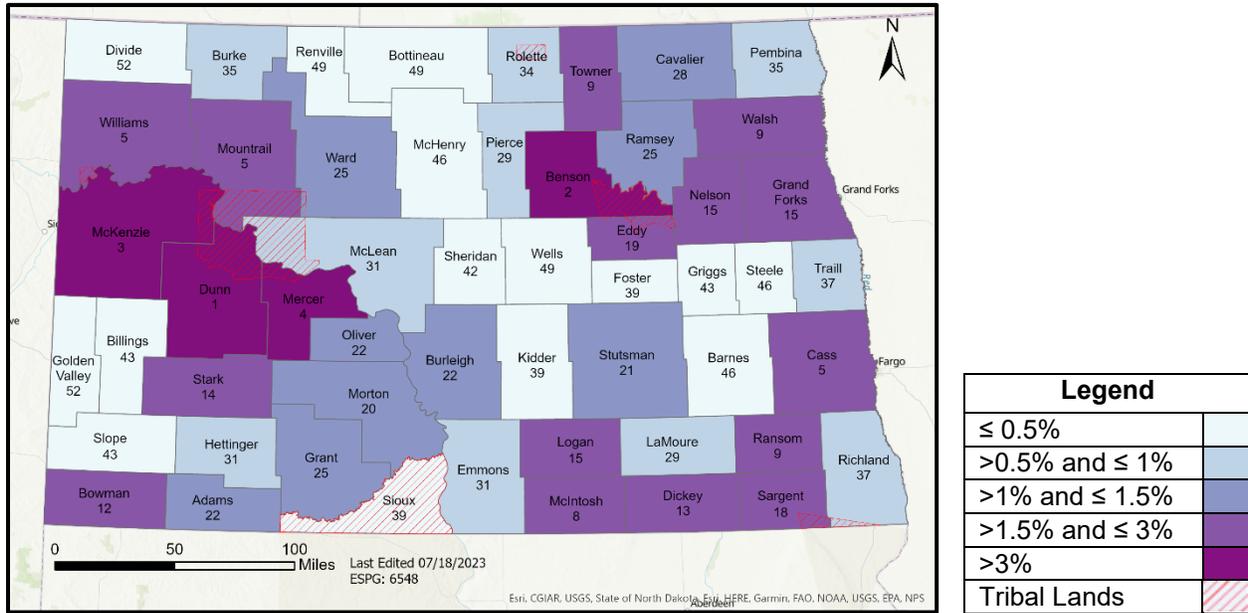
Figure 15: Percentage of Racial or Ethnic Minority by County¹⁸⁶



¹⁸⁶ United States Census American Community Survey (published in 2021), ACS Demographic and Housing Estimates 2021 5-Year Estimates. Accessed at: [https://data.census.gov/table?q=dp05&g=040XX00US38_38\\$0500000&tid=ACSDP5Y2021.DP05](https://data.census.gov/table?q=dp05&g=040XX00US38_38$0500000&tid=ACSDP5Y2021.DP05).

As shown in **Figure 17** below, in North Dakota, 1.9% of the population speak another language at home and speak English less than “very well.” Five counties have a population of English learners that is greater than 3%, and each of these counties have below state average broadband subscription rates. Pembina has the highest percentage of English learners in the state and ranks 40th, and the next four counties with the highest percentages, McHenry, Mountrail, Billings, and Kidder, rank 28th, 38th, 36th, and 47th, respectively.

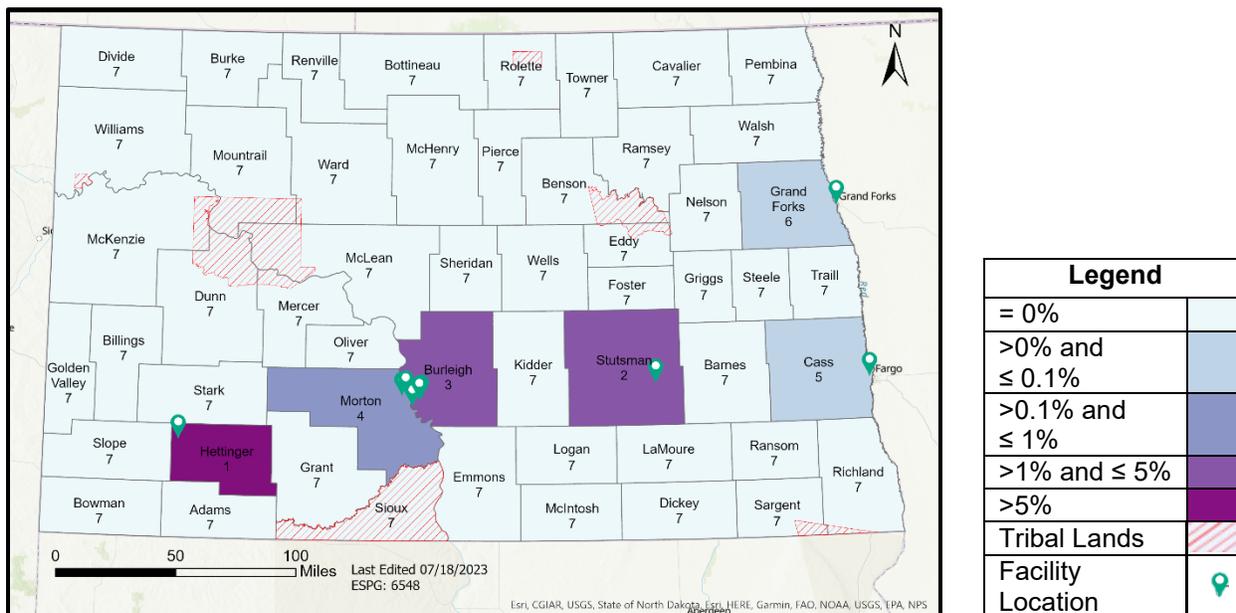
Figure 16: Percentage of Population with a Language Barrier: English Learners by County¹⁸⁷



¹⁸⁷ United States Census American Community Survey (published in 2019), ACS Demographic and Housing Estimates 2019 5-Year Estimates. Accessed at: [https://data.census.gov/table?q=dp05&g=040XX00US38_38\\$0500000&tid=ACSDP5Y2021.DP05](https://data.census.gov/table?q=dp05&g=040XX00US38_38$0500000&tid=ACSDP5Y2021.DP05)

North Dakota's nine correctional facilities are located in seven counties with five facilities located in the Bismarck-Mandan metro area (see **Figure 18** below). Given only 0.2% of the state is currently incarcerated, limited connections can be made between broadband subscription rates and the presence of incarcerated individuals. However, the more rural counties where correctional facilities are located, Hettinger and Stutsman, rank in the bottom half of broadband subscription rates with 80% and 79% adoption respectively.

Figure 17: Percentage of Incarcerated Population by County¹⁸⁸



3.2.3 Broadband Affordability – Needs and Gaps

As discussed in **Section 3.1.5**, cost can be a significant barrier to broadband adoption for low-income households. Currently, ACP is one of the largest programs in North Dakota aimed at lowering the cost barrier to internet adoption among low-income households. The discussion below provides an analysis of the current state of ACP participation in North Dakota.

Based on data from the Education SuperHighway, a national nonprofit organization focused on closing the digital divide, North Dakota's ACP participation rate is 11% (compared to the national participation rate of 34%). Of the 114,650 ACP eligible households in North Dakota, 12,438 are enrolled in ACP.¹⁸⁹

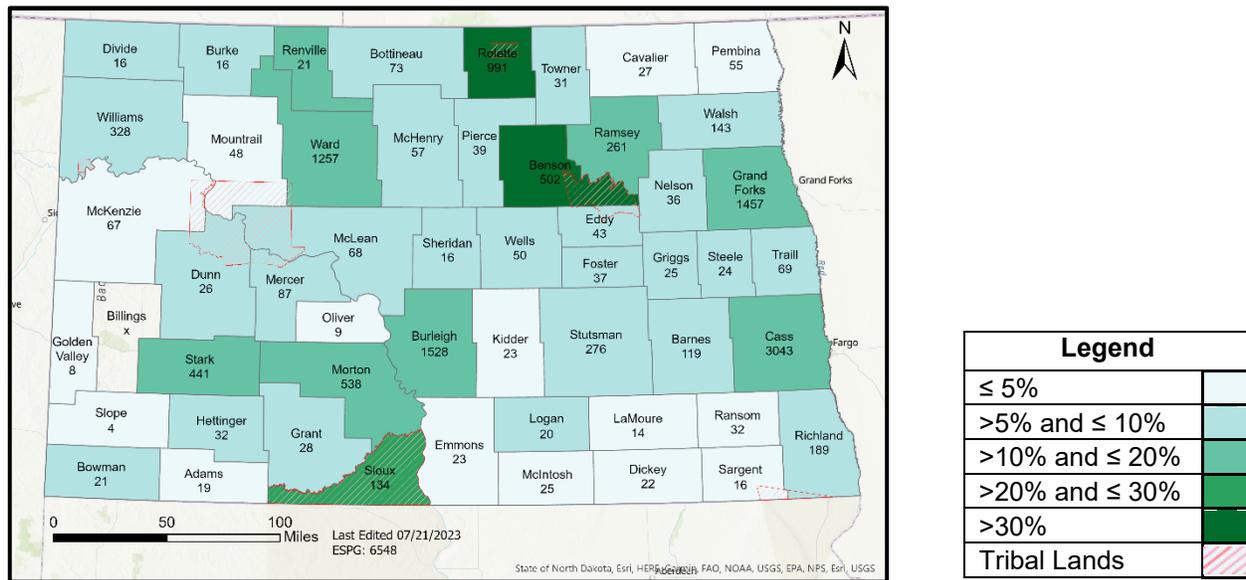
ACP participation is not uniform throughout the state. A 55-percentage point gap exists between the county with the lowest participation rate and the county with the highest participation rate. **Figure 19** below illustrates ACP participation for all counties in North Dakota and details the estimated number of households enrolled in ACP. Eight counties in the state have ACP participation rates of less than 5%, including LaMoure (2.4%), Dicky (3.1%), and Emmons (3.4%)

¹⁸⁸ North Dakota Department of Corrections and Rehabilitation (accessed on July 18, 2023), DOCR Adult Services Prison Population Information. Accessed at: <https://www.docr.nd.gov/sites/www/files/documents/statistics/factsheets/2022%2012%2031%20FACT%20SHEET.pdf>

¹⁸⁹ Education SuperHighway (accessed on May 9, 2023), Affordable Connectivity Program Enrollment Dashboard. Accessed at: <https://www.educationsuperhighway.org/no-home-left-offline/acp-data/>.

counties. The total number of households enrolled in ACP in these three counties is just below 60. On the other hand, Rolette, Benson, and Sioux counties have the highest ACP participation rates in the state at 57%, 55%, and 22%, respectively. These three counties also rank in the top three for counties with the highest percentages of low-income individuals (see **Figure 12** above), suggesting that high ACP participation corresponds with higher percentages of low-income populations in counties. Furthermore, these counties are home to Tribal Entities, which are eligible for a higher \$75 dollar discount through ACP, as compared to the typical \$30 discount. Given that 75% of counties in North Dakota have an ACP participation rate of less than 10%, a need exists to increase awareness about the program.

Figure 18: ACP Participation Rate and Estimated Number of Households Enrolled in ACP by County¹⁹⁰



According to a 2023 survey issued by the Benton Institute, half of ACP eligible households in the United States are still unaware that the program exists.¹⁹¹ Importantly, two thirds of the

¹⁹⁰ Notes about ACP Participation by County:

1. Data regarding the participation rate for ACP by county is not made available by the USAC. For the county level analysis, ACS 2021 5-Year estimates (table S1901) were used to estimate the number of households eligible for ACP.
2. The ACS does not provide an estimate for the number of households with incomes less than 200% of the federal poverty level. To derive the number of households below 200% of the poverty level, the average household size in ND, 2.37, was identified. Based on this, the poverty threshold for a 2-person household, \$39,440, was used as the income benchmark.
3. The ACP eligible households using the income-only criteria was divided by the total ACP enrollment by county data from USAC. However, research from USC found that using income alone as a criterion for ACP eligibility will overestimate the ACP participation rate. To account for this, a 1.30 ratio was used to adjust the participation rate. For a full explanation on the methodology, access this report: <https://arnicusc.org/wp-content/uploads/2022/10/Policy-Brief-2-ACP-eligibility-final.pdf>.
4. Note that Billings County is unshaded in the map because ACP enrollment data was not available through the USAC.

¹⁹¹ Benton Institute for Broadband & Society (published on March 17, 2023), Half of ACP-Eligible Households Still Unaware of the Program. Accessed at: https://www.benton.org/blog/half-ACP-eligible-households-still-unaware-program?utm_campaign=Newsletters&utm_source=sendgrid&utm_medium=email.

households that were not aware of ACP indicated that they would likely apply for ACP if they were given more information. This finding suggests that increasing outreach to ACP eligible households can be an effective tool for increasing participation.

The importance of ACP awareness offers a potential explanation for the concurrence of high ACP participation rates and high numbers of low-income individuals across counties. The top three counties based on ACP participation rates are also the top three counties in terms of percentage of low-income individuals. Five of the next six counties based on ACP participation rates have urban centers with large numbers of low-income individuals. Given the large proportion and number of low-income individuals, these counties offer additional services and programs aimed at supporting and assisting these vulnerable populations. The greater number of program offerings may coincide with increased awareness of the benefits of the ACP program. Conversely, in rural areas it is more difficult to distribute information given the lower concentration of eligible individuals and populations more generally. Limited awareness of ACP given the rural nature of the state offers a potential explanation for the lower participation rate compared to the national average, as estimated by Education Superhighway.

ISPs also play an important role in ACP participation, as they are often the main organization educating the public on who qualifies and how to enroll. Based on a 2023 survey that was issued to BAND members, ISPs in North Dakota stated that one of their primary reasons for participating in ACP was to meet their customers' needs and offer more affordable prices. As such, according to FCC data, 83 ISPs are participating in ACP in North Dakota.¹⁹² Of the 83 total ISPs, 40 are offering fixed broadband, fixed and mobile broadband, or both. To better understand the cost barrier to broadband adoption in North Dakota, the prices of the lowest tier broadband plans offered by ACP participating ISPs were analyzed. For ISPs that have price points listed on their websites, the average cost of the lowest-tier internet plan was \$60 per month.¹⁹³ This is significantly higher than the national average of \$46 per month.¹⁹⁴ It is important to note that this analysis of internet plan prices includes some "underserved" plans with speeds below 100/20 Mbps but above or equal to 25/3 Mbps. Additionally, speed levels for the lowest-tier plans differed widely among ISPs.

Given that the average cost for a broadband subscription is around \$60 per month in North Dakota, the ACP discount of \$30 will not completely subsidize the cost of internet for many low-income households. This finding is consistent with the results from the Benton Institute survey which found that a majority of ACP enrolled households stated that the ACP subsidy does not completely cover their cost of internet coverage.¹⁹⁵ NTIA research has found that 3 out of 4 offline households were not willing to pay any amount for internet. Among the offline households that were willing to pay, the average willingness to pay for internet was \$10 per month.¹⁹⁶ Overall, this analysis indicates that while increasing ACP participation is an important effort for the state, many

¹⁹² Federal Communications Commission (accessed on May 9, 2023), Affordable Connectivity Program Providers. Accessed at: <https://www.fcc.gov/affordable-connectivity-program-providers>.

¹⁹³ *Statistic was derived by researching ISP websites and compiling data on the cost of the lowest tier internet plan offered.*

¹⁹⁴ USTelecom (published on June 29, 2022), 2022 Broadband Pricing Index. Accessed at: <https://ustelecom.org/research/2022-bpi/>.

¹⁹⁵ Benton Institute for Broadband & Society (published on March 17, 2023), Half of ACP-Eligible Households Still Unaware of the Program. Accessed at: https://www.benton.org/blog/half-acp-eligible-households-still-unaware-program?utm_campaign=Newsletters&utm_source=sendgrid&utm_medium=email.

¹⁹⁶ National Telecommunications and Information Administration (accessed on June 6, 2023), New Analysis Shows Offline Households Are Willing to Pay \$10-a-Month on Average for Home Internet Service, Though Three in Four Say Any Cost is Too Much. Accessed at: <https://ntia.gov/blog/2022/new-analysis-shows-offline-households-are-willing-pay-10-month-average-home-internet>.

low-income households who are unwilling or unable to pay for internet coverage may need additional financial assistance. Therefore, awareness efforts, while important, may not be able enough to address affordability concerns and increase adoption alone, and additional measures may be necessary.

4 Collaboration and Stakeholder Engagement

4.1 Coordination and Outreach Strategy

To support the development of this Digital Equity Plan, in conjunction with North Dakota's BEAD Five-Year Action Plan, a significant amount of stakeholder and public engagement was conducted by North Dakota and its partners.

4.1.1 Key Collaborators for Plan Development

To reflect diverse stakeholder perspectives, the State developed a comprehensive stakeholder list with a wide range of organizations including, but not limited to: Tribal Entities, State agencies and departments, associations of county and municipal government, institutions of higher education, agencies responsible for implementing workforce development programs, economic development organizations, CAIs, labor unions, internet service providers (ISPs), and nonprofit and community organizations. In identifying these groups, particular care was taken to intentionally include organizations representing historically underrepresented groups and covered populations, including low-income individuals, aging individuals, incarcerated individuals, veterans, individuals with disabilities, individuals with a language barrier, racial/ethnic minorities, and individuals living in rural areas. A complete listing of the stakeholders included in the process can be found in **Appendix A**.

The stakeholder engagement process was also designed to maximize statewide geographic coverage of stakeholder groups. Organizations and State agencies providing statewide services or representing statewide populations were prioritized for inclusion, as were organizations serving different types of localities – spanning the range from urban to rural. Further, to encourage participation in areas with the most unserved and underserved individuals, the State used FCC broadband data to identify the four regions across North Dakota with the lowest broadband accessibility and adoption rates and targeted these areas for additional public outreach events.

4.1.2 Coordination and Outreach Strategy

North Dakota's stakeholder engagement includes three primary engagement methods: interviews, focus groups, and public outreach events. For each stakeholder identified to date, a preferred method of engagement has been determined based on the objectives of engagement and expected impact and influence the stakeholder has over digital equity planning. As new stakeholders are identified, the State will determine an appropriate engagement method and frequency. For example, interviews are used when gathering direct input on current broadband assets and digital equity needs. Stakeholders are included in focus groups when they can provide insights on challenges with digital inclusion, especially for covered populations as identified by the NTIA Digital Equity Program. Public outreach events aim to boost awareness and obtain feedback from people in the most underserved areas. The State has designed the overall stakeholder engagement strategy to obtain the most meaningful feedback from each stakeholder.

In addition to these three primary engagement methods, the State solicited stakeholder feedback through formal Tribal Consultations, online surveys, and other local events and conferences. Completed stakeholder engagement activities as of July 28, 2023, are detailed below:

- **Interviews with 26 internal State agency and department leaders.** During these interviews, State leaders were asked about the current state of broadband from their

department or agency's perspective, barriers and initiatives for digital opportunity, and planning for the future in relation to workforce and broadband access. When applicable, interview questions were customized for a deeper dive into a specific agency's unique operations and programming – particularly when the agency served at least one covered population.

- **Interviews with 12 external stakeholders.** During these interviews, organizations were asked about the current state of broadband for the populations they serve, barriers and initiatives for digital opportunity, and planning for the future in relation to workforce and broadband access. Specific interview questions were designed to obtain more information on each organization's services and programming.
- **Tribal Consultations with federally recognized Tribal Entities.** The State has conducted consultations with three of the five federally recognized Tribes in North Dakota and is working to schedule the remaining two consultations. During the initial consultations, the State has provided a general overview of current broadband programs and the planning process. Discussion aims to focus on recommendations from Tribal Entities regarding current broadband gaps and barriers, community needs, key opportunities, areas for investment, desired future state, and strategies for implementation.
- **Seven targeted focus groups.** Focus group discussions were wide-ranging and meant to highlight key barriers, digital equity recommendations, and future goals for each group. Focus groups were organized by the following topic areas: Senior Services, Veterans, Tribal Colleges, Low-Income Populations, Rural Economic Development, Workforce Development, and Disability Services
- Online **surveys** were distributed through select stakeholders to their members. The surveys focused on identifying geographical service gaps and digital equity needs. As part of this effort, surveys were circulated to the members of:
 - Broadband Association of North Dakota (BAND), whose members are cooperative and commercial telecommunications companies and ISPs
 - North Dakota League of Cities, whose members are city governments of all sizes across the state
- **Public outreach events** were attended by the State to spread awareness and gather feedback for the planning process in four priority regions with the lowest broadband accessibility and adoption rates. The following public events were part of this effort:
 - Food Truck Rodeo – Watford City; June 9, 2023
 - Lake Region Arts Festival – Devils Lake; June 10, 2023
 - West River Community Center Pool Party – Dickinson; July 13, 2023
 - Jamestown Arts Market – Jamestown; July 13, 2023
- Attendance at **conferences** to promote awareness of planning efforts and boost collaboration among government partners and Tribal Entities as well as among local telecommunications companies. Representatives presented information at:
 - Government to Government Conference
 - BAND Conference

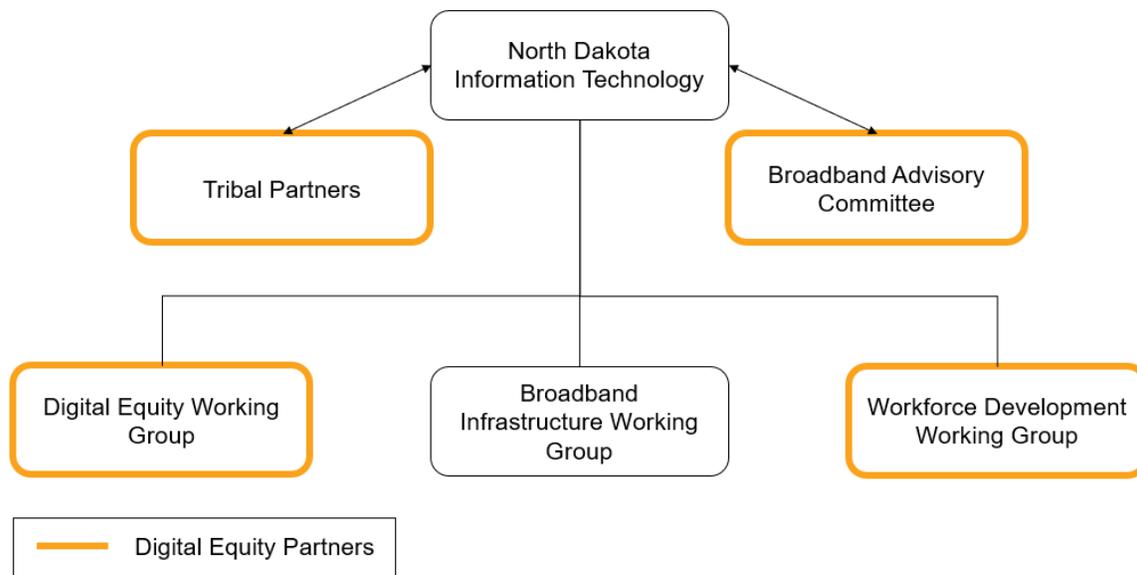
The comprehensive stakeholder list developed for this process will serve as the starting point when soliciting public comment and ongoing engagement. In particular, those representing the interests of covered populations, including many of the participants in the focus groups, will be included in planned ongoing collaboration as part of the Digital Equity and Workforce Development Working Groups outlined below.

4.1.3 Implementation Partners

As the State prepares to implement the Digital Equity and BEAD Programs, it will continue to collaborate with key internal and external stakeholders to help advance digital equity and broadband deployment efforts, particularly in communities that demonstrate the greatest need. With this in mind, the State envisions a planned partnership approach that consists of touchpoints with Tribal Governments, the establishment of a Broadband Advisory Committee, and engagement with three partner categories – the Digital Equity Working Group, the Broadband Infrastructure Working Group, and the Workforce Development Working Group. The State will continue targeting and working towards its digital equity goals and objectives through its digital equity partners – identified as its Tribal Partners, the Digital Equity Working Group, and the Workforce Development Working Group, with additional input from the Broadband Advisory Committee.

This approach is depicted in **Figure 20** and the specific engagement tactics are described below.

Figure 19: Planned Partnership Structure



- Tribal Engagement touchpoints** to support an open dialogue about the broadband infrastructure and digital equity needs of North Dakota’s Tribal Entities. These touchpoints will offer insight into the specific digital equity needs of each Tribal Entity. **Membership:** Each of the five federally recognized Tribal Entities in North Dakota – Sisseton Wahpeton Oyate Nation, Spirit Lake Nation, Standing Rock Sioux Tribe, Three Affiliated – MHA

Nation, Turtle Mountain Band of Chippewa. **Meeting frequency:** quarterly, or at a cadence requested by each Tribal Entity.

- **Broadband Advisory Committee** to support internal government coordination and alignment. The Advisory Committee will help the State implement proposed activities that require coordination among internal players and will recommend best practices for broadband-ready communities throughout the state. **Membership:** State of North Dakota department and agency representatives, particularly those that provide services to covered populations. This group would also include representation from North Dakota Information Technology (NDIT) leadership. **Meeting frequency:** quarterly.
- **Working Groups** to further explore barriers and gaps and to recommend solutions to address or resolve these issues. Digital equity focus areas for these groups are:
 - **Digital Equity Working Group** to help identify and prioritize digital equity needs across North Dakota. Members will represent various covered populations and help bring to light the unique barriers they face related to broadband adoption, access, and affordability. The Digital Equity Working Group will also identify opportunities to address statewide digital equity challenges and those specific to vulnerable communities. **Membership:** Organizations representing unserved/underserved individuals and geographies and organizations providing support and/or services to covered populations. This includes but is not limited to: city/county officials, CAIs, libraries, public housing authorities, regional councils, veteran support agencies, senior service providers, disability service providers, civil rights organizations representatives of the agricultural community, rural businesses or chambers of commerce, organizations representing incarcerated individuals, nonprofit organizations. **Meeting frequency:** monthly.
 - **Broadband Infrastructure Working Group** to represent the statewide broadband deployment and infrastructure needs. This group will primarily help identify and provide proposed solutions to implementation challenges related to broadband deployment projects. The work of this group will lay the foundation that the digital equity partners will build upon with their efforts. **Membership:** ISPs, owners/operators of adjacent infrastructure and roadways, local departments of transportation, statewide information network operators, users of broadband in rural and remote areas, county and municipal governments – all with a particular representation of geographic areas that remain unserved and/or underserved. **Meeting frequency:** monthly.
 - **Workforce Development Working Group** to be tasked with supporting a skilled and ready workforce that is prepared to deliver on broadband deployment projects. This group will provide recommendations to help reconcile any discrepancies between the skills required by companies that will be charged with deployment responsibilities and those possessed by the workforce. This group will also identify the longer-term workforce needs to help support the sustainability and maintenance of buildouts. **Membership:** Workforce training agencies, administrators of adult education and literacy programs, state/local workforce boards, labor organizations, community organizations, institutions of higher learning. **Meeting frequency:** monthly.

Workforce and Labor Partnerships

Workforce development is vital to addressing identified workforce gaps and shortages. As described above, the State plans to engage with a variety of workforce and labor stakeholders

through its planned Workforce Development Working Group. Part of the work of this group will be to encourage and facilitate the creation of partnerships and collaborative opportunities – a key step in resolving these issues long-term and building a skilled workforce for the future.

Adequate training opportunities are needed to ensure that those entering the workforce and those already part of it have the digital skills to meet the needs of industries that rely on advanced technologies for innovations, efficiencies, and increased remote work – particularly in North Dakota’s agricultural and energy sectors. Additionally, the BEAD Five-Year Action Plan addresses workforce needs for the planned deployment of broadband technology across the state.

Partnerships between private industry and agencies responsible for education and workforce development are crucial to addressing this gap. By supporting collaboration among these groups and the creation of targeted training programs, the State can provide long-term employment for North Dakotans, promote industry and economic development, and have a workforce that is ready to address the needs of the future.

Opportunities for Public Input

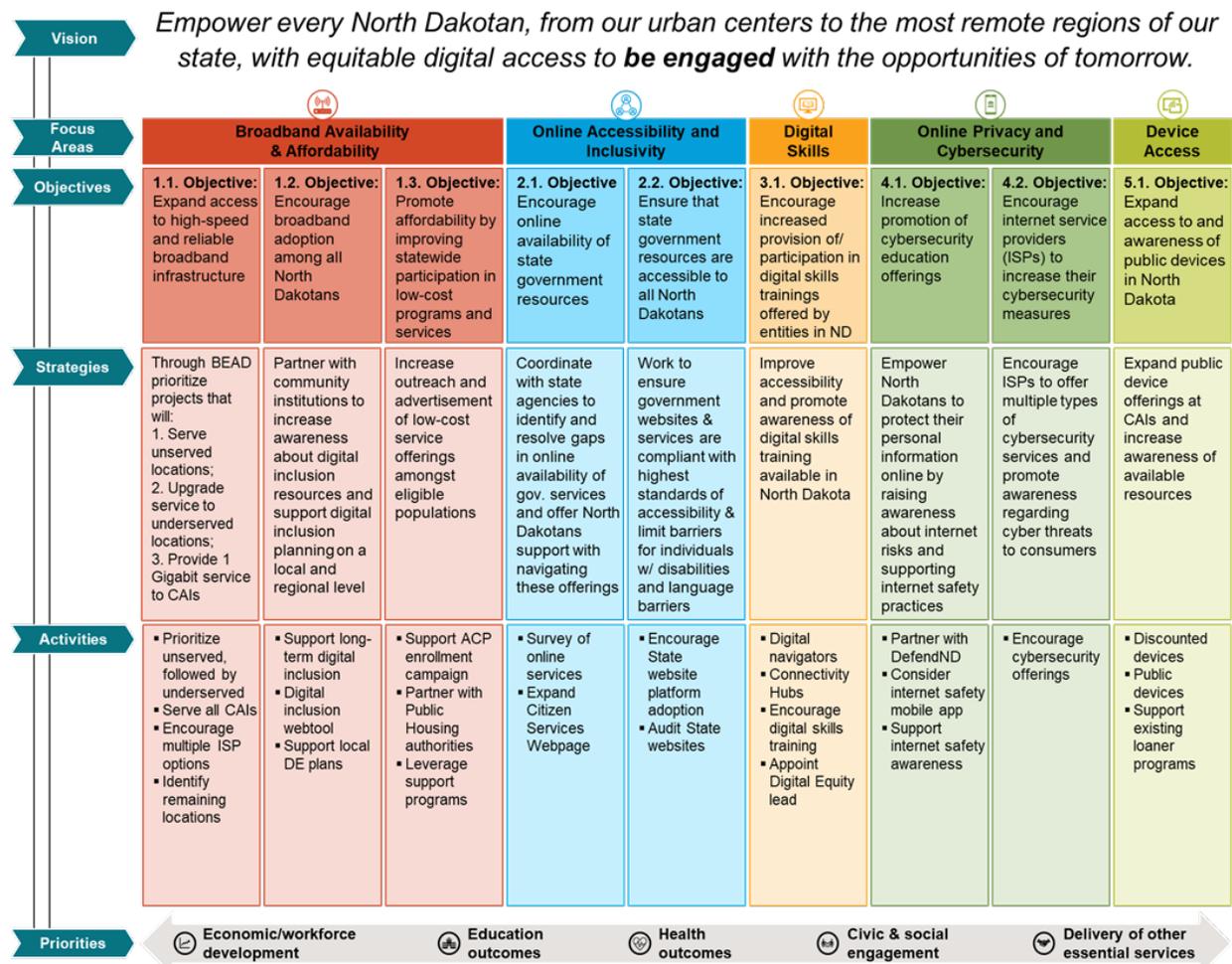
The State Broadband Program Office is committed to maintaining transparency throughout the finalization of the Digital Equity Plan and its subsequent implementation. The State recognizes the importance of developing a Digital Equity Plan that is representative of the lived experiences of North Dakotans. As such, the State intends to provide regular updates to the general public and simultaneously solicit their feedback on the Plan. This information will be consolidated and ultimately shared at <https://broadband.nd.gov>. North Dakota’s Digital Equity Plan will be posted for public comment at <https://www.ndit.nd.gov/about-us/publications>. The State Broadband Program Office will employ a multipronged communications approach that may encompass a combination of print and digital channels to publicize opportunities for the public to provide input on the Plan. Comments will be documented, reviewed, and leveraged to inform revisions and finalization of this Digital Equity Plan.

5 Implementation

5.1 Implementation Strategy & Key Activities

North Dakota has developed 9 strategies with 25 total activities (9 activities unique to the Digital Equity Plan and 16 activities shared with the BEAD Five-Year Action Plan) to deliver upon its vision for digital equity. These holistic implementation tactics aim to address key gaps and barriers related to full participation in the digital environment. Implementation of these activities hinges upon the total allocation received through the Digital Equity Capacity Grant. Prioritization of activities will emphasize those that demonstrate alignment with and advance BEAD goals. The various activities that make up these strategies range from infrastructure deployment to digital skills trainings and aim to support the needs of covered populations. These strategies and activities and their relationship to the Plan’s objectives are outlined in **Figure 21** below.

Figure 20: North Dakota’s Strategic Framework for Digital Equity



Additionally, objectives and evaluation mechanisms have been created to help ensure that the Plan is sustainable and effective in the long-term. The State has high standards for digital inclusion goals and efforts. Regular evaluation and iteration will ensure that these proposed strategies and activities effectively and efficiently advance the State’s digital equity objectives.

The key below denotes the differences in the activities that will be discussed in this section. Activities with a defined outline have overlap with activities that are also discussed in North Dakota’s BEAD Five-Year Action Plan. Activities without the outline are unique to North Dakota’s Digital Equity Plan.

| | |
|--|--|
| <p>Activities unique to the Digital Equity Plan</p> | <p>Activities with overlap between the Digital Equity Plan and BEAD Five-Year Action Plan</p> |
|--|--|

5.1.1 Strategies and Associated Activities

Strategy 1.1 - Through the administration of BEAD funds, prioritize projects that will extend service to unserved locations, upgrade service to underserved locations, and provide 1 Gigabit service to CAIs.

Activities

Extending service to unserved and underserved locations is a priority for North Dakota. The State plans to deploy or upgrade infrastructure for these locations to address existing gaps in service. The State will then prioritize deployment projects that serve CAIs with 1 Gbps symmetrical speeds. Prioritizing projects that will provide service to these institutions will increase their impact on North Dakota’s digital inclusion efforts, as organizations such as schools, libraries, and churches offer key public access points. Additional projects of interest will include encouraging multiple ISP options. This endeavor will help close any lingering service gaps and promote market competition. **Table 11** outlines the specific activities and the barriers or gaps that are addressed by this strategy.

Table 11: Key Barriers or Gaps Addressed for Strategy 1.1

| Activity | Key Barriers or Gaps Addressed |
|--|--|
| <p>Prioritize unserved, followed by underserved: Prioritize first projects that deploy broadband infrastructure to the unserved locations, and subsequently projects that deploy or upgrade infrastructure for the underserved locations.</p> | <p>This addresses a gap in broadband infrastructure for unserved and underserved locations and will allow for more equitable access to internet service statewide.</p> |
| <p>Serve CAIs: Fund projects that extend 1 Gbps symmetrical speeds to identified CAIs.</p> | <p>Increasing the speed of service that CAIs can provide to the community will facilitate public access to the internet. This will improve the quality of internet-related service offerings at these institutions.</p> |
| <p>Encourage multiple ISP options: Prioritize deployment projects that enable additional ISPs to provide coverage to areas with only one service provider.</p> | <p>Promoting competition in the market can help improve the affordability of service offerings for individuals in North Dakota. Providing choice in the market will also allow for North Dakotans to select internet service packages that are best fit for their needs.</p> |
| <p>Identify remaining locations: Continue to identify all unserved and underserved locations as well as CAIs not receiving 1 Gbps symmetrical speeds.</p> | <p>Strategically working towards providing service for all North Dakotans will address barriers to internet access for unserved and underserved locations.</p> |

Measures of success

Strategy 1.1 aims to address **Objective 1.1** in **Section 2.3.1**, where success will be assessed based on *the percentage of locations with access to ≥100/20 Mbps download/upload speeds*. The following steps could allow the State to evaluate its progress towards its near-term target of 99% of locations with access to ≥100/20 Mbps download/upload speeds and long-term target of providing 100% of locations with access to ≥100/20 Mbps download/upload speeds. These steps could include:

- Require subgrantees to report progress on a regular cadence as they build the supporting broadband infrastructure (*cadence to be determined*);
- Review most recently updated FCC National Broadband Maps upon their release to assess changes in the percent and number of served, underserved, and unserved locations;
- Identify additional funding sources and opportunities to extend coverage to any remaining unserved and underserved locations.

Strategy 1.2 - Partner with community institutions to increase awareness about digital inclusion resources and support digital inclusion planning on a local and regional level.

Activities

Existing digital equity resources can be more impactful if targeted community members are aware of their presence. Partnering with community institutions to increase awareness of these resources will help maximize reach and allow for increased utilization. Additionally, partnering with CAIs will allow the State to provide additional targeted support to covered populations. **Table 12** outlines the specific activities and the barriers or gaps that are addressed by this strategy.

Table 12: Key Barriers or Gaps Addressed for Strategy 1.2

| Activity | Key Barriers or Gaps Addressed |
|--|--|
| <p>Support long-term digital inclusion: Ensure that institutions offering digital inclusion programming are informed about available federal funding resources to enhance their digital inclusion efforts. Collaborate with these institutions to strategize pathways for long-term support once the Digital Equity Act funding is exhausted.</p> | <p>Collaboration with institutions operating in the digital inclusion space will allow for productive and efficient progress towards a common goal. Long-term funding will ensure that barriers and gaps are continually managed once Digital Equity Act funding is exhausted.</p> |
| <p>Digital inclusion webtool: Support the development of a comprehensive and interactive webtool and an accompanying physical resource that consolidates all digital inclusion assets. This may include digital skills training courses, device assistance programs, educational resources, and public computer access points.</p> | <p>Consolidating resources will ensure that individuals have awareness of and insight into the state’s digital inclusion offerings. Creating a tool that promotes existing programs, educational resources, and public devices will allow for easier navigation of digital equity resources. This tool can also lead to additional adoption and affordability through increased awareness and targeted assistance.</p> |
| <p>Support local DE Plans: Work with partners from the proposed Digital Equity Working Group to encourage and support local entities and Tribal Entities with developing local digital equity plans that identify the specific digital inclusion needs of their respective communities.</p> | <p>Working in tandem with the proposed working group will ensure that all actors in the digital equity space are making efficient progress towards the same goal. A working group will prevent organizations from operating in silos, creating visibility and community. Additionally, working together will prevent duplicative efforts and provides an environment for knowledge and resource sharing.</p> |

Measures of success

Strategy 1.2 aims to address **Objective 1.2** in **Section 2.3.1**, where success will be assessed based on *the percentage of households with a broadband subscription*. The following steps could allow the State to evaluate its progress towards its near-term target of 87% and long-term target of providing 90% of households with a broadband subscription. These steps could include:

- Require subgrantees to report progress on a regular cadence as they support local plans;
- Track use of webtool and routinely update and service the platform;

- Analyze progress routinely to track subscriptions with American Community Survey (ACS) data on “Percentage of Households With Subscription to Any Broadband Service.”

Strategy 1.3 - Increase outreach and advertisement of low-cost service offerings amongst eligible populations.

Activities

ACP offers subsidies for eligible populations to make internet services and devices more affordable. Under the assumption that ACP funding is extended, promoting increased enrollment of this existing program can help to bridge the affordability gap for many individuals in North Dakota. Directing community members to take advantage of existing resources is an effective and efficient way to support eligible populations. Outreach and advertising for this program can take many forms, such as a calculated enrollment campaign, partnerships with State agencies, and collaboration with local organizations. Additional low-cost offerings that are available to North Dakotans can be promoted concurrently. **Table 13** outlines the specific activities and the barriers or gaps that are addressed by this strategy.

Table 13: Key Barriers or Gaps Addressed for Strategy 1.3

| Activity | Key Barriers or Gaps Addressed |
|---|---|
| <p>Support ACP enrollment campaign: Partner with State agencies and/or community support organizations to support a statewide ACP enrollment campaign. As part of the campaign, develop targeted ACP outreach materials to engage covered populations.</p> | <p>Promoting ACP participation will help address both the adoption and affordability gaps in North Dakota, especially for low-income individuals, aging individuals, individuals with disabilities, and veterans. Low ACP participation may be partially due to limited awareness of the program, particularly in more rural parts of the state.</p> |
| <p>Partner with Public Housing Authorities: Work with Public Housing Authorities to advertise and promote ACP and other low-cost offerings among low-income North Dakotans. Additionally, engage with relevant organizations (e.g., North Dakota Housing Finance Agency) to discuss potential incentives for developers to educate individuals about low-cost internet offerings within the Low-Income Housing Tax-Credit Allocation Plan.</p> | <p>Partnerships with community organizations that serve the same covered populations that ACP targets will help maximize enrollment. Additional low-cost offerings could be advertised simultaneously while partnering with relevant organizations.</p> |
| <p>Leverage support programs: Coordinate with organizations overseeing government assistance programs within North Dakota to target ACP/low-cost offering awareness efforts to households in need of support.</p> | <p>Partnerships with community organizations that serve the same covered populations that ACP targets will help maximize enrollment. Many individuals who are utilizing select government assistance programs automatically qualify for ACP, making their enrollment straightforward. Promotion of additional low-cost offerings can be included in this coordination approach.</p> |

Measures of success

Strategy 1.3 aims to address **Objective 1.3** in **Section 2.3.1**, where success will be assessed based on *the statewide participation in ACP*. The following steps could allow the State to evaluate its progress towards its near-term target of 20% and long-term target of 35% of households participating in the ACP. These steps could include:

- Track number of enrollment events;
- Track number of partnerships with organizations that administer income-support programs;
- Track ACP participation through Education Superhighway.

Strategy 2.1 - Coordinate with State agencies to identify and resolve gaps in online availability of government services and offer North Dakotans support to help them navigate these offerings.

Activities

Successful coordination between State agencies is imperative both to improve online availability and utilization of services. While State agencies already administer a number of digital inclusion offerings, it is important to ensure that individuals are able to readily access and navigate these resources. Emphasizing collaboration will not only encourage alignment across State agencies, but also increase accessibility of offerings. **Table 14** outlines the specific activities and the barriers or gaps that are addressed by this strategy.

Table 14: Key Barriers or Gaps Addressed for Strategy 2.1

| Activity | Key Barriers or Gaps Addressed |
|---|---|
| <p>Survey of online services: Survey all State agencies in North Dakota to collect information regarding their online service offerings and identify any services that are currently unavailable online. Support agencies in addressing gaps in online provision of resources.</p> | <p>Determining what online services are already offered within State agencies in North Dakota sets the stage for greater alignment in the provision of resources. This will especially support rural populations who may be unable to take advantage of services in person.</p> |
| <p>Expand Citizens Services Webpage: Build upon the Citizen Services Webpage to ensure that all online government services are captured in a consolidated platform.</p> | <p>A consolidated webpage will improve navigation of existing offerings and ultimately increase the use and uptake of the website. This page will make it easier for North Dakotans to receive necessary support or information that they might need.</p> |

Measures of success

Strategy 2.1 aims to address **Objective 2.1** in **Section 2.3.1**, where success will be assessed based on *the number of State government services that are offered online*. The following steps could allow the State to evaluate its progress towards its near-term target of 80% and long-term target of 100% of services offered online.

These steps could include:

- Require agencies to submit information regarding their online service offerings and follow-ups documenting progress towards increased online presence;

- Track expansion of services offered through Citizens Services Webpage.

Strategy 2.2 – Work to ensure government websites and services are compliant with the highest standards of online accessibility and limit barriers for individuals with disabilities and individuals with language barriers.

Activities

Online resources must be accessible to all members of the population. These accessibility concerns are particularly pertinent to various underrepresented groups such as individuals with disabilities and language barriers. **Table 15** outlines the specific activities and the barriers or gaps that are addressed by this strategy.

Table 15: Key Barriers or Gaps Addressed for Strategy 2.2

| Activity | Key Barriers or Gaps Addressed |
|---|--|
| <p>Encourage State website platform adoption: Engage with State agencies to encourage widespread adoption of the State website platform that has imbedded capabilities for integrated accessibility scanning and measures to help with assisted web browsing. Work to ensure that the State website platform is regularly updated to stay consistent with the most up to date accessibility standards.</p> | <p>Working to ensure that the State website platform is accessible addresses a key barrier for individuals with disabilities and individuals with language barriers. This will maximize the efficacy of existing offerings by making sure vulnerable populations are able to utilize them.</p> |
| <p>Audit State websites: Conduct an audit of State agencies’ websites to identify whether essential government services are accessible and inclusive for ESL individuals. If services are found to be inaccessible, assist State agencies in providing additional resources to ESL individuals.</p> | <p>Depending on the manner in which information is presented on State agencies’ websites, these online State resources may be less accessible to those with language barriers. Regularly auditing these websites will ensure that this barrier is addressed.</p> |

Measures of success

Strategy 2.2 aims to address **Objective 2.2** in **Section 2.3.1**, where success will be assessed based on *the number of State government websites that meet the requirements of an accessibility audit*. The following steps could allow the State to evaluate its progress towards its near-term target of 50% and long-term target of 100% of government websites meeting the requirements of an accessibility audit.

These steps could include:

- Require agencies to submit information regarding their accessible online service offerings and follow-ups documenting progress towards increased online accessibility;
- Audit websites routinely;

- Track cross-agency strategies related to increasing accessibility of online services.

Strategy 3.1 - Improve accessibility and promote awareness of digital skills training available in North Dakota.

Activities

Challenges associated with using digital devices can serve as a barrier to accessing digital inclusion resources. Various activities can help mitigate this challenge and provide individuals with the support that they need to feel comfortable and confident utilizing digital offerings, such as educational courses and one-on-one training. Ensuring that all individuals in North Dakota are properly equipped to take advantage of digital resources is imperative to addressing the digital divide. **Table 16** outlines the specific activities and the barriers or gaps that are addressed by this strategy.

Table 16: Key Barriers or Gaps Addressed for Strategy 3.1

| Activity | Key Barriers or Gaps Addressed |
|--|---|
| <p>Digital navigators: Help establish a statewide Digital Navigator Program that will assist individuals with adopting broadband, using digital devices, and solving technical issues. The program structure will involve one set of digital navigators that will report directly to their respective State agencies that may utilize additional navigators in organizations.</p> | <p>Digital navigators will support individuals in a one-on-one setting to answer questions related to internet use and digital devices. This will particularly support the aging population, which may face additional barriers associated with navigating the internet.</p> |
| <p>Connectivity Hubs: Promote Connectivity Hubs that consolidate telehealth, digital skills, digital navigators, and workforce offerings at existing CAIs in regions with large, covered populations and unserved and underserved locations.</p> | <p>Connectivity Hubs will facilitate access to devices and broadband-related services and reduce barriers to critical life opportunities, ranging from telehealth offerings to virtual learning opportunities.</p> |
| <p>Encourage digital skills training: Partner with State agencies and/or other training providers to increase the number and frequency of digital skills training offered in their centers. Additionally, increase awareness of these offerings by conducting outreach to regional organizations.</p> | <p>Limitations associated with device and internet use represent a challenge for many covered populations, such as aging individuals. Increasing the frequency of classes will help expand opportunities for digital-skills advancement. In addition, promoting these classes will increase the likelihood that individuals are aware of and able to take advantage of these opportunities.</p> |
| <p>Appoint Digital Equity lead: Appoint an individual responsible for overseeing the State’s digital equity efforts, aligning partners, and informing strategic decisions.</p> | <p>North Dakota currently does not have a Digital Equity Lead. Appointing an individual exclusively dedicated to digital equity will ensure that the State makes continuous progress against digital equity objectives and is centralized in its decision-making.</p> |

Measures of success

Strategy 3.1 aims to address **Objective 3.1** in **Section 2.3.1**, where success will be assessed based on (1) *the number of digital skills and awareness programs specifically supporting each*

covered population in the state and (2) the number of digital navigators in the state. The following steps could allow the State to evaluate its progress against its near-term target of at least 1 digital skills and awareness program to each covered population and long-term target of proportionate numbers of digital skills and awareness programs to each covered population in the state. Additionally, the following steps could allow the State to evaluate its progress against its near-term target of developing a Digital Navigator Program with at least 4 digital navigators (1 in each corner of the state) and long-term target of having at least one digital navigator for each economic development region in the state. These steps could include:

- Monitor digital skills and awareness programs and track number of digital navigators;
- Review most updated Digital Equity Act Population Viewer to assess changes in covered populations to target areas of need;
- Review digital navigator programs routinely and digital skills programs to ensure that they are meeting targets.

Strategy 4.1 - Empower North Dakotans to protect their personal information online through raising awareness about internet risks and supporting better internet safety practices.

Activities

It is important for North Dakotans to have the ability to safely access the online resources that are being made available to them. Online security is an important precursor for widespread internet use. Those who have less experience using the internet and digital devices may have less familiarity with best practices for online security. While safety concerns currently serve as a barrier to internet use, proper training and awareness campaigns can help alleviate this challenge. **Table 17** outlines the specific activities and the barriers or gaps that are addressed by this strategy.

Table 17: Key Barriers or Gaps Addressed for Strategy 4.1

| Activity | Key Barriers or Gaps Addressed |
|--|---|
| <p>Partner with DefendND: Partner with DefendND to coordinate a State-led effort to increase awareness about internet safety by leveraging media outlets and local governments. Encourage individuals to take the Personal Security Risk and Assessment to better understand their security risks and complete the KnowBe4 Home Internet Security Awareness Training Course to become more knowledgeable about internet safety.</p> | <p>Trainings to promote internet safety will help individuals feel more comfortable using the internet without added security concerns. Covered populations, such as aging individuals, in particular can benefit from increased information about internet safety.</p> |
| <p>Consider internet safety mobile app: Engage proposed Digital Equity Working Group members to explore the feasibility of providing a free mobile app to individuals that alerts users if the mobile device or tablets faces cybersecurity threats. Maximize synergies through existing development opportunities.</p> | <p>A mobile app will provide individuals with additional visibility into their personal internet safety. Individuals avoiding internet use due to safety concerns can feel more comfortable utilizing a trusted source, which could encourage broadband adoption.</p> |
| <p>Support internet safety awareness: Advance awareness about internet safety among covered populations by disseminating clear and straight-forward internet safety content through CAIs.</p> | <p>Having a trusted source, such as a CAI, provide safety information will promote comfort with internet use.</p> |

Measures of success

Strategy 4.1 aims to address **Objective 4.1** in **Section 2.3.1**, where success will be assessed based on *the number of individuals completing a cybersecurity course (Cisco training) offered as part of North Dakota Citizens Skills for All*. The following steps could allow the State to evaluate its progress against its near-term target of 75% utilization rate and long-term target of 95% utilization rate. These steps could include:

- Routinely solicit feedback on course offerings from organizations providing cybersecurity courses;
- Regularly update Internet Safety Mobile App;
- Review cybersecurity courses to ensure that curriculum is up to date.

Strategy 4.2 - Encourage ISPs to offer multiple types of cybersecurity services and promote awareness regarding cyber threats to customers.

Activities

ISPs can play a pivotal role in promoting internet safety, as they provide a direct line to consumers and offer an efficient pathway for spreading internet safety information. Additionally, ISPs are

often a primary point of contact for users regarding internet service. **Table 18** outlines the specific activity and the barriers or gaps that are addressed by this strategy.

Table 18: Key Barriers or Gaps Addressed for Strategy 4.2

| Activity | Key Barriers or Gaps Addressed |
|--|--|
| <p>Encourage cybersecurity offerings: Encourage all ISPs in North Dakota to create a trusted source certification program to offer important cybersecurity services, such as providing parental control features, educating customers about cyber risks, and spreading awareness about existing resources in the state.</p> | <p>Cybersecurity programs could help address barriers associated with safety and accessibility, especially for those who may be unfamiliar with security best practices.</p> |

Measures of success

Strategy 4.2 aims to address **Objective 4.2** in **Section 2.3.1**, where success will be measured based on *the percent of subrecipients that have adopted NIST’s cybersecurity framework*. The following steps could allow the State to evaluate its progress against its near-term and short-term targets of 100% of subrecipients adopting NIST’s cybersecurity framework:

- Require subrecipients to report on whether they have adopted NIST’s cybersecurity framework;
- Routinely meet with ISPs to identify and track efficacy of existing cybersecurity measures;
- Collaborate with ISPs to identify opportunities for new cybersecurity measures

Strategy 5.1 - Expand public device offerings at CAIs and increase awareness of available resources.

CAIs are often key locations for North Dakotans to access the internet and utilize devices. As such, expansion of public device offerings at CAIs can help augment internet and device use. Additionally, advertising options to the community will ensure that individuals are able to take advantage of them. **Table 19** outlines the specific activities and the barriers or gaps that are addressed by this strategy.

Table 19: Key Barriers or Gaps Addressed for Strategy 5.1

| Activity | Key Barriers or Gaps Addressed |
|--|---|
| <p>Discounted devices: Encourage ISPs participating in ACP to offer connected devices that are eligible for the ACP discount.</p> | <p>Promoting discounted devices will address an affordability need in the community, which is particularly useful for low-income populations.</p> |
| <p>Public devices: Encourage the expansion of public device offerings at the 48 State Libraries that currently lack public computer labs and advertise these offerings on library websites.¹⁹⁷</p> | <p>Physical gaps in locations with public devices can prevent North Dakotans from accessing the internet. Expanding the number of public devices and the number of locations where they are present will help to address limitations associated with public device access, particularly for low-income and rural populations.</p> |
| <p>Support existing loaner program: Expand device loaner programs to give North Dakotans the ability to rent devices from State Libraries, higher education institutions, and other State agencies.</p> | <p>Supporting existing device loaner programs will help low-income individuals in the state utilize devices they otherwise would not be able to access.</p> |

Measures of success

Strategy 5.1 aims to address **Objective 5.1** in **Section 2.3.1**, where success will be assessed based on *the number of libraries offering public devices*. The following steps could allow the State to evaluate its progress against its near-term target of 60% of libraries offering public devices within three years and long-term target of 65% libraries offering public devices within five years. These steps could include:

- Monitor expansion of public device and computer lab construction;
- Keep in contact with public libraries to track and monitor public device offerings.

5.1.2 Mechanisms for Plan Implementation and Evaluation

Monitoring progress on an ongoing basis will be crucial to ensure that these strategies and activities are being executed to the highest standards of the State and to identify areas for improvement. These plans will be refined based on findings from updated maps, needs assessments, and stakeholder insights.

The State will provide an annual report to the Broadband Advisory Committee. Additional annual or semi-annual reports will be sent to NTIA as requested, where the focus will be on the big picture to ensure progress thus far is aligned with established goals. The continual evaluation of the Plan will allow the State to gain insight into updated needs of communities and refine planned activities accordingly.

¹⁹⁷ Note: Computer labs were identified using public information on library websites. Identified libraries may have computer labs not advertised.

Certain stakeholder organizations will be invited to participate in quarterly meetings to discuss progress and evaluate the Plan. The State will continue to collaborate with and maintain partnerships with key stakeholders to advance their work in the digital inclusion space.

5.2 Timeline

As North Dakota prepares for implementation, the first step will be to establish the proposed stakeholder engagement structures, as described in **Section 4.1.3**. Through ongoing engagement with the three Working Groups, particularly the Digital Equity Group, the state will refine and ascertain the relative prioritization of proposed activities. This will be a key focus for the State Broadband Program Office for the first half of 2024. As proposed stakeholders are onboarded to their respective Working Group(s), the State will begin discussions surrounding the execution of activities. These discussions will help shape the draft implementation strategy, which is outlined below.

North Dakota plans to take a staggered implementation approach over the next six years and will either expand, begin, or continue to execute upon planned activities. The State has proposed a timeline for implementing each of the activities from the nine digital inclusion strategies discussed above. Conditions which could impact this timeline include but are not limited to extended funding for select activities, depleted funding for select activities, and other unforeseen circumstances and roadblocks. **Table 20** outlines the proposed timing for executing activities.

The implementation strategy will prioritize first deployment and infrastructure-related projects. Upon extending service to all unserved and underserved locations and providing all CAIs with 1 Gbps symmetrical speeds, the state will then prepare to deliver upon the discussed digital equity activities. Execution of these activities will follow the relative prioritization detailed in **Table 20**. As the state prepares to deliver on these activities, it will engage with appropriate Working Groups, particularly the Digital Equity Working Group, to identify implementation partners and begin discussions accordingly. As activities are rolled out, the State will continue discussions with appropriate stakeholders to identify additional funding sources and sponsoring organizations that will allow for the longer-term sustainability of these efforts.

Table 20: Proposed activity implementation timeline

| Year / Stage | Activities |
|---------------|---|
| 2024 (Year 1) | <ul style="list-style-type: none"> • Activities to expand on <ul style="list-style-type: none"> ○ Prioritize unserved, followed by underserved (Strategy 1.1) ○ Serve CAIs (Strategy 1.1) ○ Encourage multiple ISP options (Strategy 1.1) ○ Identify remaining locations (Strategy 1.1) |
| 2025 (Year 2) | <ul style="list-style-type: none"> • Activities to expand on <ul style="list-style-type: none"> ○ Support local DE plans (Strategy 1.2) ○ Support long-term digital inclusion (Strategy 1.2) ○ Expand Citizens Services Webpage (Strategy 2.1) • Activities to begin <ul style="list-style-type: none"> ○ Digital inclusion webtool (Strategy 1.2) ○ Support ACP enrollment campaign (Strategy 1.3) ○ Partner with Public Housing Authorities (Strategy 1.3) ○ Leverage support programs (Strategy 1.3) ○ Internet accessibility survey (Strategy 2.1) ○ Audit State websites (Strategy 2.2) |

| | |
|---------------|---|
| | <ul style="list-style-type: none"> ○ Encourage state website platform adoption (Strategy 2.2) ● Activities to continue <ul style="list-style-type: none"> ○ Prioritize unserved, followed by underserved (Strategy 1.1) ○ Serve all CAIs (Strategy 1.1) ○ Encourage multiple ISP options (Strategy 1.1) ○ Identify remaining locations (Strategy 1.1) |
| 2026 (Year 3) | <ul style="list-style-type: none"> ● Activities to expand <ul style="list-style-type: none"> ○ Support internet safety awareness (Strategy 2.1) ● Activities to begin <ul style="list-style-type: none"> ○ Digital navigator program (Strategy 3.1) ○ Appoint Digital Equity lead (Strategy 3.1) ○ Encourage cyber security offerings (Strategy 4.2) ● Activities to continue <ul style="list-style-type: none"> ○ Prioritize unserved, followed by underserved (Strategy 1.1) ○ Serve all CAIs (Strategy 1.1) ○ Encourage multiple ISP options (Strategy 1.1) ○ Identify remaining locations (Strategy 1.1) ○ Support long-term digital inclusion (Strategy 1.2) ○ Support local DE plans (Strategy 1.2) ○ Digital inclusion webtool (Strategy 1.2) ○ Support ACP enrollment campaign (Strategy 1.3) ○ Partner with Public Housing Authorities (Strategy 1.3) ○ Leverage support programs (Strategy 1.3) ○ Expand Citizens Services Webpage (Strategy 2.1) ○ Internet accessibility survey (Strategy 2.1) ○ Encourage state website platform adoption (Strategy 2.2) ○ Audit State websites (Strategy 2.2) |
| 2027 (Year 4) | <ul style="list-style-type: none"> ● Activities to expand <ul style="list-style-type: none"> ○ Increase digital skills training (Strategy 3.1) ● Activities to begin <ul style="list-style-type: none"> ○ Connectivity Hubs (Strategy 3.1) ○ Partner with DefendND (Strategy 4.1) ● Activities to continue <ul style="list-style-type: none"> ○ Prioritize unserved, followed by underserved (Strategy 1.1) ○ Serve all CAIs (Strategy 1.1) ○ Encourage multiple ISP options (Strategy 1.1) ○ Identify remaining locations (Strategy 1.1) ○ Support long-term digital inclusion (Strategy 1.2) ○ Support local DE plans (Strategy 1.2) ○ Digital inclusion webtool (Strategy 1.2) ○ Support ACP enrollment campaign (Strategy 1.3) ○ Partner with Public Housing Authorities (Strategy 1.3) ○ Leverage support programs (Strategy 1.3) ○ Expand Citizens Services Webpage (Strategy 2.1) ○ Internet accessibility survey (Strategy 2.1) ○ Support internet safety awareness (Strategy 2.1) |

| | |
|---------------|--|
| | <ul style="list-style-type: none"> ○ Encourage state website platform adoption (Strategy 2.2) ○ Audit State websites (Strategy 2.2) ○ Digital navigator program (Strategy 3.1) ○ Appoint Digital Equity lead (Strategy 3.1) ○ Encourage cyber security offerings (Strategy 4.2) |
| 2028 (Year 5) | <ul style="list-style-type: none"> ● Activities to begin <ul style="list-style-type: none"> ○ Consider internet safety mobile app (Strategy 4.1) ● Activities to continue <ul style="list-style-type: none"> ○ Prioritize unserved, followed by underserved (Strategy 1.1) ○ Serve all CAIs (Strategy 1.1) ○ Encourage multiple ISP options (Strategy 1.1) ○ Identify remaining locations (Strategy 1.1) ○ Support long-term digital inclusion (Strategy 1.2) ○ Support local DE plans (Strategy 1.2) ○ Digital inclusion webtool (Strategy 1.2) ○ Support ACP enrollment campaign (Strategy 1.3) ○ Partner with Public Housing Authorities (Strategy 1.3) ○ Leverage support programs (Strategy 1.3) ○ Expand Citizens Services Webpage (Strategy 2.1) ○ Internet accessibility survey (Strategy 2.1) ○ Support internet safety awareness (Strategy 2.1) ○ Encourage state website platform adoption (Strategy 2.2) ○ Audit State websites (Strategy 2.2) ○ Digital navigator program (Strategy 3.1) ○ Appoint Digital Equity lead (Strategy 3.1) ○ Connectivity Hubs (Strategy 3.1) ○ Increase digital skills training (Strategy 3.1) ○ Partner with DefendND (Strategy 4.1) ○ Encourage cyber security offerings (Strategy 4.2) |
| 2029 (Year 6) | <ul style="list-style-type: none"> ● Activities to expand on <ul style="list-style-type: none"> ○ Support existing loaner program (Strategy 5.1) ● Activities to begin <ul style="list-style-type: none"> ○ Discounted devices (Strategy 5.1) ○ Public devices (Strategy 5.1) ● Activities to continue <ul style="list-style-type: none"> ○ Prioritize unserved, followed by underserved (Strategy 1.1) ○ Serve all CAIs (Strategy 1.1) ○ Encourage multiple ISP options (Strategy 1.1) ○ Identify remaining locations (Strategy 1.1) ○ Support long-term digital inclusion (Strategy 1.2) ○ Support local DE plans (Strategy 1.2) ○ Digital inclusion webtool (Strategy 1.2) ○ Support ACP enrollment campaign (Strategy 1.3) ○ Partner with Public Housing Authorities (Strategy 1.3) ○ Leverage support programs (Strategy 1.3) ○ Expand Citizens Services Webpage (Strategy 2.1) ○ Internet accessibility survey (Strategy 2.1) ○ Support Internet safety awareness (Strategy 2.1) |

- Encourage state website platform adoption (Strategy 2.2)
- Audit State websites (Strategy 2.2)
- Digital navigator program (Strategy 3.1)
- Appoint Digital Equity lead (Strategy 3.1)
- Connectivity Hubs (Strategy 3.1)
- Increase digital skills training (Strategy 3.1)
- Consider internet safety mobile app (Strategy 4.1)
- Partner with DefendND (Strategy 4.1)
- Encourage cyber security offerings (Strategy 4.2)

6 Conclusion

North Dakota's Digital Equity Plan establishes a path forward for the State to make progress addressing the State's digital inclusion challenges, particularly with respect to the eight covered populations identified as more susceptible to digital exclusion. It aims to address several barriers identified throughout the State's robust stakeholder engagement process, research, and data analysis. These include inequitable access to broadband infrastructure, the cost of broadband subscriptions, limited digital skills, and digital reluctance.

In today's society, internet access and digital skills are not just a luxury – they are fundamental to everyday life. This Plan's measurable objectives, and the corresponding strategies and activities, aim to comprehensively support North Dakotans' needs with respect to the digital world and, in turn, will help to unlock educational, social, health, economic, financial, and civic opportunities, for today and for the future.

This Plan's objectives address five key areas that are identified in the DE NOFO: broadband availability and affordability, online accessibility and inclusivity, digital skills, online privacy and cybersecurity, and device access. Many of the strategies and activities align and overlap with the State's BEAD Five-Year Action Plan, which allows the State to maximize its efforts through both the BEAD and DE Programs. The activities unique to this Plan address additional digital inclusion challenges, which preclude full participation in the digital economy, particularly for members of covered populations.

While North Dakota recognizes that this is a complex challenge, it is committed to developing a sustainable strategy through a multi-stakeholder approach that will have a lasting impact long after Digital Equity Act funds have been spent. By laying a foundation through this Plan that will benefit the State's digital equity efforts far into the future, North Dakota is committed to securing *broadband for all, broadband for lifeSM*.

7 Appendices

Appendix A: Local Coordination Tracker

List of Stakeholders

| Stakeholder Name | Locality / Region / City | Stakeholder Type | Individuals who live in covered (low income) households | Aging individuals (60+) | Incarcerated Individuals (non-federally) | Veterans | Individuals with disabilities | Individuals with a language barrier/low literacy | Individuals who are members of a racial or ethnic minority group | Individuals who primarily reside in a rural area |
|--|----------------------------|---|---|-------------------------|--|----------|-------------------------------|--|--|--|
| AARP North Dakota | Statewide | Nonprofit organization | | X | | | | | | |
| BEK Communications Cooperative (BAND member) | South-Central North Dakota | Internet service provider | | | | | | | | |
| Broadband Association of North Dakota (BAND) | Statewide | Internet service provider | | | | | | | | |
| Cankdeska Cikana Community College | Spirit Lake Reservation | Higher education institution | | | | | | | X | |
| Communication Service for the Deaf, Inc | Statewide | Organization representing individuals with disabilities | | | | | X | | | |
| Communication Workers of America | Statewide | Labor organization or union | | | | | | | | X |
| Consolidated Telcom (BAND member) | Southwest North Dakota | Internet service provider | | | | | | | | |
| Dakota Central (BAND member) | Jamestown, Carrington | Internet service provider | | | | | | | | |
| Dickey Rural Networks (BAND member) | Southeast ND (rural focus) | Internet service provider | | | | | | | | |
| Emerging Digital Academy | Fargo | Workforce Development Organization | | | | | | | | |
| Family Voices of North Dakota | Statewide | Nonprofit organization | | | | | X | | | |
| Greater Grand Forks Senior Citizens Association, Inc | Grand Forks | Nonprofit organization | | X | | | | | | |
| Job Service North Dakota | Statewide | State agency | X | | | X | | | | |

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|---|-------------------------------|---|---|---|---|---|---|---|--|---|
| Microsoft TechSpark - North Dakota | Statewide | Economic development organization | | | | | | | | |
| Midco | Fargo, Jamestown, Grand Forks | Internet service provider | | | | | | | | |
| Minot Commission on Aging | Region 2 | Organization representing aging individuals (60+) | | X | | | | | | |
| MLGC (BAND member) | Bismarck | Internet service provider | | | | | | | | |
| ND Cares | Statewide | Nonprofit organization | | | | X | | | | |
| NDSU Center for Social Research, North Dakota Compass/Kids Count | Statewide | Higher education institution | | | | | | | | X |
| Nemont (BAND member) | Northwest corner ND | Internet service provider | | | | | | | | |
| North Dakota Assistive | Statewide | Nonprofit organization | | X | | | X | | | |
| North Dakota Association for Lifelong Learning | Statewide | Adult education agency | | | | | | X | | |
| North Dakota Association for the Disabled (NDAD) | Statewide | Organization representing individuals with disabilities | | | | | X | | | |
| North Dakota Association of Counties | Statewide | County or municipal government | | | | | | | | |
| North Dakota Association of Rural Electric Cooperatives (NDAREC) | Statewide | Economic development organization | | | | | | | | |
| North Dakota Department of Agriculture/Agriculture Commissioner | Statewide | State agency | | | | | | | | X |
| North Dakota Department of Commerce | Statewide | State agency | X | | | | | | | |
| North Dakota Department of Corrections and Rehabilitation | Statewide | State agency | | | X | | | | | |
| North Dakota Department of Emergency Services | Statewide | State agency | | | | | | | | |
| North Dakota Department of Health & Human Services | Statewide | State agency | X | X | | | X | | | |
| North Dakota Department of Information Technology | Statewide | State agency | | | | | | | | |

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|--|---------------------------------|--------------------------------|---|---|--|---|---|---|---|---|
| North Dakota Department of Labor and Human Rights | Statewide | State agency | | X | | | X | | X | |
| North Dakota Department of Parks and Recreation | Statewide | State agency | | | | | | | | |
| North Dakota Department of Public Instruction | Statewide | State agency | X | | | | X | X | X | |
| North Dakota Department of Transportation | Statewide | State agency | | | | | | | | |
| North Dakota Department of Veterans Affairs | Statewide | State agency | | | | X | | | | |
| North Dakota Department of Water Resources | Statewide | State agency | | | | | | | | |
| North Dakota Farm Bureau | Statewide | Nonprofit organization | | | | | | | | X |
| North Dakota Game and Fish Department | Statewide | State agency | | | | | | | | X |
| North Dakota Governor's Office | Statewide | State agency | | | | | | | | |
| North Dakota Highway Patrol | Statewide | State agency | | | | | | | | |
| North Dakota Indian Affairs Commission | Statewide | State agency | | | | | | | X | |
| North Dakota Insurance Department | Statewide | State agency | | | | | | | | |
| North Dakota League of Cities | Statewide | County or municipal government | | | | | | | | |
| North Dakota Legislative Branch | Statewide | State agency | | | | | | | | |
| North Dakota Lt. Governor | Statewide | State agency | | | | | | | | |
| North Dakota Public Service Commission | Statewide | State agency | | | | | | | | |
| North Dakota Secretary of State | Statewide | State agency | | | | | | | | |
| North Dakota State Library | Statewide | Community anchor institution | | | | | | | | |
| North Dakota State Radio (911) | Statewide | State agency | | | | | | | | |
| North Dakota State University | Statewide | Higher education institution | | | | | | | | |
| North Dakota State University Extension | Statewide | Higher education institution | | | | | | | | X |
| North Dakota Telephone Company (BAND member) | Northeast ND around Devils Lake | Internet service provider | | | | | | | | |
| North Dakota Township Officers Association | Statewide | County or municipal government | | | | | | | | |

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|--|---|---|---|--|--|--|---|---|---|---|
| North Dakota Vocational Rehabilitation | Statewide | State agency | | | | | | X | | |
| Northwest Communications Cooperative (BAND member) | Northwest ND | Internet service provider | | | | | | | | |
| NTCA - The Rural Broadband Association | Nationwide | Internet service provider | | | | | | | | X |
| Nueta Hidatsa Sahnish (NHS) College | Fort Berthold Reservation | Higher education institution | | | | | | | X | |
| Polar Communications (BAND member) | Northeast ND, surrounding Grand Forks | Internet service provider | | | | | | | | |
| Rebuilding Together | Bismarck and Mandan | State agency | | | | | X | | | |
| Red River Communications (BAND member) | SE ND between Fargo and Wahpeton | Internet service provider | | | | | | | | |
| Roosevelt Custer Regional Council | Region 8 | Nonprofit organization | X | | | | | | | |
| RTC Networks (BAND member) | West-central ND between Minot and Williston | Internet service provider | | | | | | | | |
| Sisseton Wahpeton Oyate Nation | Sisseton-Wahpeton/Lake Traverse Reservation | Tribal government or organization | | | | | | | X | |
| Spirit Lake Nation | Spirit Lake Reservation | Tribal government or organization | | | | | | | X | |
| SRT Communications, Inc. (BAND member) | Minot, North Central ND | Internet service provider | | | | | | | | |
| Standing Rock Sioux Tribe | Standing Rock Reservation | Tribal government or organization | | | | | | | X | |
| The Arc of North Dakota | Statewide | Organization representing individuals with disabilities | | | | | | X | | |
| Three Affiliated Tribes - Mandan, Hidatsa, & Arikara (MHA) Nation | Fort Berthold Reservation | Tribal government or organization | | | | | | | X | |
| Train ND Southeast - Fargo | Fargo | Workforce Development Organization | | | | | | | | |
| Train ND Southwest - Bismarck | Bismarck | Workforce Development Organization | | | | | | | | |
| Turtle Mountain Band of Chippewa | Turtle Mountain Reservation | Tribal government or organization | | | | | | | X | |
| Turtle Mountain Community College | Turtle Mountain Reservation | Higher education institution | | | | | | | X | |

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|---|-------------------|---|---|---|--|--|---|--|--|---|---|
| U.S. Small Business Administration - North Dakota District | Statewide | Economic development organization | | | | | X | | | | |
| UND Center for Rural Health | Statewide | Community anchor institution | | X | | | | | | X | X |
| United & Turtle Mountain Communications (BAND member) | North/NE ND | Internet service provider | | | | | | | | | |
| United Tribes Technical College | Statewide | Higher education institution | | | | | | | | X | |
| United Way of Dickinson | Greater Dickinson | Nonprofit organization | X | | | | | | | | |
| University of North Dakota | Statewide | Higher education institution | | | | | | | | | |
| US Dept of Housing and Urban Development (HUD) - ND - Fargo Field office | Statewide | Federal government | X | | | | | | | | |
| USDA Rural Development | Statewide | Economic development organization | | | | | | | | | X |
| Valley Senior Services | Region 5 | Organization representing aging individuals (60+) | | X | | | | | | | |
| Volunteers of America - Homeless Veterans | Dakotas | Nonprofit organization | | | | | X | | | | |
| West Fargo Public Library | West Fargo | Nonprofit organization | X | | | | | | | | |
| West River Telecom (BAND member) | Statewide | Internet service provider | | | | | | | | | |

List of Engagement Activities

| Activity / Meeting Title | Activity / Meeting Purpose | Engagement Mechanism | Date | Total # Engag-ed | Organization(s) | Covered Populations Reached |
|---|----------------------------|----------------------|-----------|------------------|--|-----------------------------|
| Midco ND Broadband Discussion | Stakeholder Interview | Virtual Meeting | 5/8/2023 | 1 | Midco | - |
| ND Highway Patrol Broadband Discussion | Stakeholder Interview | Virtual Meeting | 5/9/2023 | 1 | North Dakota Highway Patrol | - |
| BAND Broadband Discussion with NDIT | Stakeholder Interview | Virtual Meeting | 5/9/2023 | 1 | Broadband Association of North Dakota (BAND) | - |
| UND Broadband Discussion | Stakeholder Interview | Virtual Meeting | 5/11/2023 | 2 | University of North Dakota | - |

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|---|-----------------------|-------------------|-----------|---|---|--|
| NDLC Broadband Discussion | Stakeholder Interview | Virtual Meeting | 5/11/2023 | 1 | North Dakota League of Cities | - |
| ND State Library Broadband Discussion | Stakeholder Interview | Virtual Meeting | 5/11/2023 | 2 | North Dakota State Library | Low-Income Populations, Aging Populations, Rural Populations |
| ND Dept. of Emergency Services Broadband Discussion | Stakeholder Interview | Virtual Meeting | 5/12/2023 | 1 | North Dakota Department of Emergency Services | - |
| NTCA North Dakota Broadband Discussion | Stakeholder Interview | Virtual Meeting | 5/12/2023 | 2 | NTCA - The Rural Broadband Association | - |
| NDDOCR Broadband Discussion with NDIT | Stakeholder Interview | In-person Meeting | 5/15/2023 | 1 | North Dakota Department of Corrections and Rehabilitation | Incarcerated Individuals |
| Dept. of Labor and Human Rights Broadband Discussion | Stakeholder Interview | In-person Meeting | 5/15/2023 | 1 | North Dakota Department of Labor and Human Rights | - |
| ND Dept of Commerce Broadband Discussion | Stakeholder Interview | In-person Meeting | 5/16/2023 | 1 | North Dakota Department of Commerce, Community Services Division | Low-Income Populations, Rural Populations |
| Public Service Commission Broadband Discussion | Stakeholder Interview | In-person Meeting | 5/16/2023 | 2 | North Dakota Public Service Commission | - |
| Rep. Corey Mock Broadband Discussion | Stakeholder Interview | Virtual Meeting | 5/16/2023 | 1 | North Dakota Legislative Branch | - |
| ND 911/State Radio Broadband Discussion | Stakeholder Interview | In-person Meeting | 5/17/2023 | 3 | North Dakota Department of Emergency Services, State Radio Division | - |
| Dept. of Commerce Workforce Development Broadband Discussion | Stakeholder Interview | In-person Meeting | 5/17/2023 | 1 | North Dakota Department of Commerce, Workforce Division | - |
| Lt. Governor Miller Broadband Discussion | Stakeholder Interview | In-person Meeting | 5/17/2023 | 2 | North Dakota Office of the Governor, Office of the Lt. Governor | - |

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|---|-----------------------|-------------------|-----------|---|--|---|
| ND HHS Broadband Discussion | Stakeholder Interview | In-person Meeting | 5/17/2023 | 1 | North Dakota Department of Health and Human Services | Low-Income Populations, Aging Populations, Disabled Populations |
| NDDVA Broadband Discussion | Stakeholder Interview | In-person Meeting | 5/18/2023 | 1 | North Dakota Department of Veterans Affairs | Veterans |
| Dept. of Water Resources Broadband Discussion | Stakeholder Interview | Virtual Meeting | 5/19/2023 | 4 | North Dakota Department of Water Resources | - |
| AARP Broadband Discussion with NDIIT | Stakeholder Interview | Virtual Meeting | 5/19/2023 | 2 | AARP of North Dakota | Aging Populations |
| ND Insurance Department Broadband Discussion | Stakeholder Interview | Virtual Meeting | 5/22/2023 | 1 | North Dakota Insurance Department | - |
| UND Center for Rural Health Broadband Discussion | Stakeholder Interview | Virtual Meeting | 5/22/2023 | 1 | University of North Dakota Center for Rural Health | Rural Populations, Aging Populations, Racial/Ethnic Minority Groups |
| ND Dept. of Transportation Broadband Discussion | Stakeholder Interview | Virtual Meeting | 5/22/2023 | 6 | North Dakota Department of Transportation | - |
| ND Assistive Broadband Discussion with NDIIT | Stakeholder Interview | Virtual Meeting | 5/23/2023 | 1 | North Dakota Assistive | Disabled Populations, Aging Populations |
| ND Farm Bureau Broadband Discussion with NDIIT | Stakeholder Interview | Virtual Meeting | 5/24/2023 | 1 | North Dakota Farm Bureau | Rural Populations |
| ND Vocational Rehab Broadband Discussion with NDIIT | Stakeholder Interview | Virtual Meeting | 5/24/2023 | 1 | North Dakota Vocational Rehabilitation | Disabled Populations, Aging Populations |
| Broadband Association of North Dakota (BAND) Member Survey | Stakeholder Survey | Online Survey | 5/30/2023 | - | Broadband Association of North Dakota (BAND) | - |
| ND League of Cities Broadband | Stakeholder Survey | Online Survey | 6/1/2023 | - | League of Cities | - |

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|--|-----------------------|-------------------|----------|---|--|--|
| Member Survey | | | | | | |
| Job Service Meeting with NDI | Stakeholder Interview | In-person Meeting | 6/2/2023 | 2 | Job Service North Dakota | Veterans |
| NDDPI Broadband Discussion | Stakeholder Interview | In-person Meeting | 6/2/2023 | 2 | North Dakota Department of Public Instruction | - |
| NDPRD Broadband Discussion with NDI | Stakeholder Interview | In-person Meeting | 6/2/2023 | 1 | North Dakota Parks and Recreation Department | - |
| Rep. Glenn Bosch Broadband Discussion | Stakeholder Interview | In-person Meeting | 6/2/2023 | 1 | North Dakota Legislative Branch | - |
| NDIT Broadband Focus Group: Senior Services | Focus Group | Virtual Meeting | 6/5/2023 | 4 | Minot Commission on Aging, Valley Senior Services, North Dakota Assistive, Greater Grand Forks Senior Center | Aging Populations, Disabled Populations |
| NDIT Broadband Focus Group: Veterans | Focus Group | Virtual Meeting | 6/5/2023 | 4 | Job Service North Dakota, Volunteers of America – Dakotas Homeless Veterans Program, Rebuilding Together, North Dakota Cares | Veterans, Low-Income |
| CWA Broadband Discussion with NDI | Stakeholder Interview | Virtual Meeting | 6/5/2023 | 1 | Communication Workers of America | - |
| NDIT Broadband Focus Group: Tribal Colleges | Focus Group | Virtual Meeting | 6/6/2023 | 3 | Cankdeska Cikana Community College, Nueta Hidatsa Sahnish College, Turtle Mountain Community College | Racial/Ethnic Minority Groups, Rural Populations |
| Dept. of Agriculture Broadband Discussion | Stakeholder Interview | Virtual Meeting | 6/6/2023 | 3 | North Dakota Department of Agriculture | Rural Populations |

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|---|-----------------------|-----------------|-----------|---|--|--|
| NDIT Broadband Focus Group: Low-Income Populations | Focus Group | Virtual Meeting | 6/6/2023 | 4 | Center for Social Research at North Dakota State University, US Dept of Housing and Urban Development North Dakota Office, Roosevelt Custer Regional Council, West Fargo Public Library | Low-Income Populations, Aging Populations, Rural Populations |
| ND Secretary of State Broadband Discussion | Stakeholder Interview | Virtual Meeting | 6/6/2023 | 2 | North Dakota Office of the Secretary of State | - |
| Watford City Food Truck Rodeo | Public Outreach Event | In-person Event | 6/9/2023 | - | - | - |
| Lake Region Arts Festival | Public Outreach Event | In-person Event | 6/10/2023 | - | - | - |
| NDIT Broadband Focus Group: Rural Economic Development | Focus Group | Virtual Meeting | 6/12/2023 | 6 | Community Action Partnership of North Dakota, Microsoft TechSpark – North Dakota, US Small Business Administration – North Dakota District, North Dakota Association of Rural Electric Cooperatives (NDAREC) | Rural Populations, Low-Income Populations, Aging Populations, Veterans |
| NDIT Broadband Focus Group: Workforce Development | Focus Group | Virtual Meeting | 6/12/2023 | 7 | Emerging Digital Academy, North Dakota Association for Lifelong Learning, North Dakota Vocational Rehabilitation, TrainND Southeast, Community Action Partnership of North Dakota, TrainND Southwest | Low Literacy/Language Barrier Populations, Rural Populations, Low-Income Populations, Disabled Populations, Veterans |
| NDSU Broadband | Stakeholder Interview | Virtual Meeting | 6/12/2023 | 3 | North Dakota State University | - |

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|--|-----------------------|-------------------|-----------|----|---|---|
| Discussion with NDIT | | | | | Information Technology | |
| NDIT Broadband Focus Group: Disability Services | Focus Group | Virtual Meeting | 6/13/2023 | 4 | The Arc of North Dakota, Family Voices of North Dakota, Communication Service for the Deaf Inc, North Dakota Association for the Disabled | Disabled Populations |
| NDACO Broadband Discussion with NDIT | Stakeholder Interview | Virtual Meeting | 6/13/2023 | 3 | North Dakota Association of Counties | Rural Populations |
| North Dakota Broadband Development Plan: Spirit Lake Nation | Tribal Consultation | In-person Meeting | 6/15/2023 | 10 | Spirit Lake Nation | Rural Populations, Racial/Ethnic Minorities |
| North Dakota Broadband Development Plan: Turtle Mountain Consultation | Tribal Consultation | In-person Meeting | 6/15/2023 | 10 | Turtle Mountain Band of Chippewa | Rural Populations, Racial/Ethnic Minorities |
| NDSU Broadband Discussion: Extension and Agriculture | Stakeholder Interview | Virtual Meeting | 6/21/2023 | 4 | North Dakota State University Agriculture Extension & Research/Agricultural Experiment Station | Rural Populations |
| North Dakota Government to Government Conference | Conference | In-person Event | 6/22/2023 | - | - | - |
| BEAD/DE Follow Up Discussion: Turtle Mountain | Stakeholder Interview | Virtual Meeting | 7/7/2023 | 4 | Turtle Mountain Band of Chippewa | - |
| Game and Fish Dept Broadband Discussion | Stakeholder Interview | Virtual Meeting | 7/11/2023 | 1 | North Dakota Game and Fish Department | - |
| BAND Summer Conference | Conference | In-person Event | 7/11/2023 | | Broadband Association of North Dakota (BAND) | - |
| Industrial Commission Discussion with NDIT | Stakeholder Interview | Virtual Meeting | 7/12/2023 | 1 | North Dakota Industrial Commission | - |
| West River Community | Public Outreach Event | In-person Event | 7/13/2023 | - | - | - |

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|---|-----------------------|-----------------|-----------|---|------------------|---|
| Center Pool Party | | | | | | |
| Jamestown Arts Market | Public Outreach Event | In-person Event | 7/13/2023 | - | - | - |
| Mandan, Hidatsa, and Arikara Nation (MHA Nation) | Tribal Consultation | In-person Event | 8/15/2023 | - | MHA Nation Tribe | Rural Populations, Racial/Ethnic Minorities |

Appendix B: Digital Inclusion Asset Table

| Digital Inclusion Asset ¹⁹⁸ | Covered Population | | | | | | | |
|---|--------------------|-------|--------------|-------------------------------|----------|--------------------------------|------------------------|-------|
| Name | Low-Income | Aging | Incarcerated | Individuals with Disabilities | Veterans | Language Barrier/ Low Literacy | Racial/Ethnic Minority | Rural |
| Asset Total by Covered Population | 56 | 10 | 2 | 9 | 2 | 1 | 3 | 41 |
| Training for individuals regarding utilizing assistive technology devices to use computers that are offered by ND Assistive ¹⁹⁹ | | X | | X | | | | |
| In-person demonstration of assistive technology equipment that can assist in computer access offered by ND Assistive ²⁰⁰ | | X | | X | | | | |
| Webinar on “smart home” technology offered by ND Assistive ²⁰¹ | | X | | X | | | | |
| “How-to” video for using a large-print keyboard offered by ND Assistive ²⁰² | | X | | X | | | | |
| Microsoft Word Accessibility training offered by ND Assistive ²⁰³ | | X | | X | | | | |
| Digital literacy skills services offered by North Dakota’s Adult Learning Centers ²⁰⁴ | | | | | | X | | |
| Computer skills courses offered as part of the workforce training facilitated by TrainND | | | | | | | | X |

¹⁹⁸ Digital skills and awareness programs captured in the totals include only those that explicitly serve the covered population in question. They do not include those programs that generally serve the population as a whole.

¹⁹⁹ ND Assistive (accessed on May 10, 2023), Training. Accessed at: <https://ndassistive.org/services-for-professionals/training/>.

²⁰⁰ ND Assistive (accessed on May 10, 2023), Equipment Demonstration. Accessed at: <https://ndassistive.org/equipment-demonstration/>.

²⁰¹ ND Assistive (accessed on May 30, 2023), North Dakota Assistive Webinar: Smart Home Basics. Accessed at: https://www.youtube.com/watch?v=y7na_2jkb7A&list=PLFdTAMKp6QmSdYdSF9nIxjumxp7fiF8Et&index=1.

²⁰² ND Assistive (accessed on May 30, 2023), Assistive Technology Device Large Print Keyboard. Available at: <https://www.youtube.com/watch?v=d8V-unSlbEo&list=PLFdTAMKp6QmTSztna5DwResvt9DFvhZbM&index=2>.

²⁰³ ND Assistive (accessed on May 10, 2023), Web & Document Accessibility Training. Accessed at: <https://ndassistive.org/services-for-professionals/web-and-document-accessibility-training/>.

²⁰⁴ North Dakota Department of Public Instruction (accessed on May 5, 2023), Adult Learning Centers (ALC). Accessed at: <https://www.nd.gov/dpi/education-programs/adult-education-ged/adult-learning-centers-alc>.

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|---|---|---|---|--|---|--|---|---|
| Northwest, a division of Williston State College ²⁰⁵ | | | | | | | | |
| Basic computer skills and computer application training courses offered as part of the workforce training facilitated by TrainND Northeast, a division of Lake Region State College ²⁰⁶ | | | | | | | | X |
| Courses related to digital skills offered as part of the workforce training facilitated by TrainND Southwest, a division of Bismarck State College ²⁰⁷ | | | | | | | | X |
| Courses regarding basic skills related to common computer applications offered as part of the workforce training facilitated by TrainND Southeast, a division of the North Dakota State College of Sciences ²⁰⁸ | | | | | | | | X |
| The Last Mile Program designed to give felons employable skills as coders ²⁰⁹ | | | X | | | | | |
| Sitting Bull College's Digital Navigator program for students pursuing a GED ²¹⁰ | | | | | | | X | |
| Training on using internet and devices provided by individuals licensed through Senior Planet/AARP ²¹¹ | | X | | | | | | |
| Affordable Connectivity Program (ACP) – 83 internet service providers (ISPs) in North Dakota participate in ACP ²¹² | X | | | | | | X | |
| Lifeline Program that provides a discount on phone service, broadband internet service, or bundled voice-broadband packages purchased | X | | | | X | | X | |

²⁰⁵ TrainND Northwest – Williston State College (accessed on May 9, 2023), TrainND Northwest. Accessed at: <https://willistonstate.augusoft.net/>.

²⁰⁶ TrainND Northeast – Lake Region State College (accessed on May 9, 2023), TrainND Northeast. Accessed at: <https://www.lrsc.edu/discover-lrsc/business-community/trainnd-northeast>.

²⁰⁷ Bismarck State College (accessed on May 9, 2023), TrainND & Workforce Training. Accessed at: <https://bismarckstate.edu/continuingeducation/business/>.

²⁰⁸ North Dakota State College of Science (accessed on May 9, 2023), TrainND. Accessed at: <https://www.ndscs.edu/workforce-affairs/trainnd>.

²⁰⁹ North Dakota Department of Corrections and Rehabilitation (accessed on May 9, 2023), 2019-2021 Biennial Report. Accessed at: <https://www.docr.nd.gov/sites/www/files/documents/Biennial%20Report%20Archive/2019-2021%20Biennium%20Report.pdf>.

²¹⁰ DigitalUS (accessed on May 5, 2023), Program Profiles – Sitting Bull College. Accessed at: <https://digitalus.org/digital-navigator-playbook/program-profiles/>.

²¹¹ Stakeholder Interview. May 18, 2023.

²¹² Federal Communications Commission (accessed on May 9, 2023), ACP Enrollment and Claims Tracker. Accessed at: <https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/>.

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| from participating wireline or wireless providers for qualifying low-income consumers ²¹³ | | | | | | | | |
| North Dakota Assistive Financial Loan Program that assists individuals with disabilities with the purchase of assistive technologies (including computers and tablets) and training to use those technologies ²¹⁴ | | X | | X | | | | |
| Possibilities Grant distributed by ND Assistive for the purchase of assistive technologies, including computer access tools, for individuals with disabilities or aging individuals who have assistive technology needs and expenses that are above and beyond what insurance and other funding programs will cover ²¹⁵ | | X | | X | | | | |
| iCanConnect (also known as the National Deaf-Blind Equipment Distribution Program) administered by ND Assistive to provide free communications equipment to individuals with both vision and hearing loss in low-income households (those within 400% of the Federal Poverty Guidelines) ²¹⁶ | X | X | | X | | | | |
| Public computer and wi-fi access at Adams County Public Library ²¹⁷ | X | | | | | | | X |
| Public computer and wi-fi access at Beulah Public Library ²¹⁸ | X | | | | | | | X |
| Public computer and wi-fi access at Bismarck Veterans Memorial Public Library ²¹⁹ | X | | | | | | | |
| Public computer and wi-fi access at Bottineau County Public Library ²²⁰ | X | | | | | | | X |

²¹³ Federal Communications Commission (accessed on May 17, 2023), Lifeline Support for Affordable Communications. Accessed at: <https://www.fcc.gov/lifeline-consumers>.

²¹⁴ ND Assistive (accessed on May 10, 2023), North Dakota Assistive Financial Loan Program. Accessed at: <https://ndassistive.org/funding/at-financial-loan-program/>.

²¹⁵ ND Assistive (accessed on May 10, 2023), Possibilities Grant. Accessed at: <https://ndassistive.org/funding/possibilities-grant/>.

²¹⁶ ND Assistive (accessed on May 10, 2023), iCanConnect: Deaf-Blind Service. Accessed at: <https://ndassistive.org/icanconnect/>.

²¹⁷ Adams County Library (accessed on June 15, 2023), Adams County Library. Accessed at: <https://adamscountyndlibrary.com/>.

²¹⁸ Beulah Public Library (accessed on June 15, 2023), Beulah Public Library. Accessed at: <https://beulahndlibrary.com/>.

²¹⁹ Bismarck Veterans Memorial Public Library (accessed on June 15, 2023), Information Services. Accessed at: <https://bismarcklibrary.org/155/Information-Services>.

²²⁰ Bottineau County Public Library (accessed on June 15, 2023), Policies. Accessed at: <https://bottineaucountyndlibrary.com/policies/>.

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|--|---|--|--|--|--|--|--|--|---|
| Public computer and wi-fi access at Bowman Regional Public Library ²²¹ | X | | | | | | | | X |
| Public computer and wi-fi access at Cando Community Library ²²² | X | | | | | | | | X |
| Public computer access at Carnegie Regional Library ²²³ | X | | | | | | | | X |
| Public computer access at Carrington City Library ²²⁴ | X | | | | | | | | X |
| Public computer and wi-fi access at Casselton Public Library ²²⁵ | X | | | | | | | | X |
| Public internet access at Cavalier County Library ²²⁶ | X | | | | | | | | X |
| Public computer access at Dickinson Area Public Library ²²⁷ | X | | | | | | | | |
| Public computer access at Divide County Public Library ²²⁸ | X | | | | | | | | X |
| Public computer and wi-fi access at Edgerly Public Library ²²⁹ | X | | | | | | | | X |
| Public computer access at Ellendale Public Library ²³⁰ | X | | | | | | | | X |
| Public computer access at Enderlin Municipal Library ²³¹ | X | | | | | | | | X |

²²¹ Bowman Regional Public Library (accessed on June 15, 2023), Library Services. Accessed at: <https://www.bowmanlibrary.com/about/library-services/>.

²²² Cando Community Library (accessed on June 15, 2023), Library Policies. Accessed at: <https://www.candocommunitylibrary.com/library-policies>.

²²³ Carnegie Regional Library (accessed on June 15, 2023), Services. Accessed at: <https://graftonndlibrary.com/services/>.

²²⁴ Carrington City Library (accessed on June 15, 2023), Services and Policies. Accessed at: <https://carringtonlibrary.org/services/>.

²²⁵ Casselton Public Library (accessed on June 15, 2023), Services. Accessed at: <https://casseltonndlibrary.com/about-2/services/>.

²²⁶ Cavalier County Library (accessed on June 20, 2023), Cavalier County Library. Accessed at: <https://cavaliercountyndlibrary.com/>. (This asset is not listed on the Library’s website but was verified on its Facebook page.)

²²⁷ Dickinson Area Public Library (accessed on June 15, 2023), Library Services Policy. Accessed at: <http://www.dickinsonlibrary.org/library-services-policy-12358>.

²²⁸ Divide County Public Library (accessed on June 15, 2023), Divide County Library Computer Use Policy. Accessed at: <https://dividecountyndlibrary.files.wordpress.com/2019/08/divide-county-library-computer-use-policy-1.doc>.

²²⁹ Edgerly Public Library (accessed on June 16, 2023), Library Services. Accessed at: <https://edgeleylibrary.org/services.php>.

²³⁰ Ellendale Public Library (accessed on June 16, 2023), Ellendale Public Library. Accessed at: <https://ellendalendlibrary.com/>.

²³¹ Enderlin Municipal Library (accessed on June 16, 2023), Enderlin Municipal Library. Accessed at: <http://enderlinnd.com/library>.

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| Public computer and wi-fi access at Fargo Public Library (Main Library) ²³² | X | | | | | | | |
| Public computer and wi-fi access at Fargo Public Library (Dr. James Carlson Library) ²³³ | X | | | | | | | |
| Public computer and wi-fi access at Fargo Public Library (Northport Library) ²³⁴ | X | | | | | | | |
| Public computer and wi-fi access at Grand Forks Public Library ²³⁵ | X | | | | | | | |
| Public computer and wi-fi access at Griggs County Public Library ²³⁶ | X | | | | | | | X |
| Public computer and wi-fi access at Harvey Public Library ²³⁷ | X | | | | | | | X |
| Public computer and wi-fi access at Heart of America Public Library ²³⁸ | X | | | | | | | X |
| Public computer access at Iris Swedlund School & Public Library ²³⁹ | X | | | | | | | X |
| Public computer access at James River Valley Library System (Alfred Dickey Public Library) ²⁴⁰ | X | | | | | | | X |
| Public computer access at James River Valley Library System (Stutsman County Library) ²⁴¹ | X | | | | | | | X |
| Public wi-fi access at Kindred Public Library ²⁴² | X | | | | | | | X |

²³² Fargo Public Library (accessed on June 16, 2023), Services and Equipment Available to the Public. Accessed at: <https://fargond.gov/city-government/departments/library/services/printing-scanning-equipment-available>.

²³³ Fargo Public Library (accessed on June 16, 2023), Services and Equipment Available to the Public. Accessed at: <https://fargond.gov/city-government/departments/library/services/printing-scanning-equipment-available>.

²³⁴ Fargo Public Library (accessed on June 16, 2023), Services and Equipment Available to the Public. Accessed at: <https://fargond.gov/city-government/departments/library/services/printing-scanning-equipment-available>.

²³⁵ Grand Forks Public Library (accessed on June 16, 2023), Computer Services. Accessed at: <https://www.gflibrary.com/95/Computer-Services>.

²³⁶ Griggs County Public Library (accessed on June 16, 2023), Internet Use Policy. Accessed at: <https://griggscountypubliclibrary.com/internet-use-policy/>.

²³⁷ Harvey Public Library (accessed on June 16, 2023), Policies. Accessed at: <https://harveyndlibrary.com/policies/>.

²³⁸ Heart of America Library (accessed on June 16, 2023), Library News May 3, 2023. Accessed at: <https://rugbyndlibrary.com/2023/05/03/library-news-may-3-2023/>.

²³⁹ City of Velva North Dakota (accessed on June 23, 2023), Iris Swedlund School & Public Library. Accessed at: <https://www.velvand.com/iris-swedlund-school-and-public-library>.

²⁴⁰ James River Valley Library System (accessed on June 16, 2023), Computer & Internet Access Policy. Accessed at: https://www.jrvls.org/files/ugd/e61363_f2aa1b307951462f9c523a0c85317bc3.pdf.

²⁴¹ James River Valley Library System (accessed on June 16, 2023), Computer & Internet Access Policy. Accessed at: https://www.jrvls.org/files/ugd/e61363_f2aa1b307951462f9c523a0c85317bc3.pdf.

²⁴² Kindred Public Library (accessed on June 16, 2023), Welcome to the Kindred Public Library! Accessed at: <https://kindredndlibrary.org/>.

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| Public computer and wi-fi access at Lake Region Public Library ²⁴³ | X | | | | | | | | X |
| Public computer and wi-fi access at Leach Public Library ²⁴⁴ | X | | | | | | | | X |
| Public wi-fi access at Lidgerwood Public Library ²⁴⁵ | X | | | | | | | | X |
| Public computer access at Lisbon Public Library ²⁴⁶ | X | | | | | | | | X |
| Public computer and wi-fi access at Max Community Library ²⁴⁷ | X | | | | | | | | X |
| Public computer and wi-fi access at McKenzie County Public Library ²⁴⁸ | X | | | | | | | | X |
| Public computer and wi-fi access at Minot Public Library ²⁴⁹ | X | | | | | | | | |
| Public computer and wi-fi access at Morton Mandan Public Library ²⁵⁰ | X | | | | | | | | |
| Public computer access at Mott Public Library ²⁵¹ | X | | | | | | | | X |
| Public computer and wi-fi access at New Town City Library ²⁵² | X | | | | | | | | X |
| Public computer and wi-fi access at Oakes Public Library & School ²⁵³ | X | | | | | | | | X |

²⁴³ Lake Region Public Library (accessed on June 16, 2023), About Us. Accessed at: <https://devilslakendlibrary.com/about-us/>.

²⁴⁴ Leach Public Library (accessed on June 16, 2023), Services. Accessed at: <http://www.leachlibrarywahpeton.org/services.html>.

²⁴⁵ City of Lidgerwood North Dakota (accessed on June 16, 2023), Library. Accessed at: <https://www.cityoflidgerwoodnd.com/?SEC=4B7CAB22-CBCE-4B42-8BE1-38BFCF2506CA>.

²⁴⁶ Lisbon Public Library (accessed on June 16, 2023), Computer Use Policy. Accessed at: <https://www.lisbonpubliclibrary.com/>.

²⁴⁷ Max Community Library (accessed on June 16, 2023), Max Community Library Policy Manual. Accessed at: <https://maxndlibrary.files.wordpress.com/2020/03/april-2020.pdf>.

²⁴⁸ McKenzie County Public Library (accessed on June 16, 2023), Policy Handbook. Accessed at: https://www.mckenziecountyndlibrary.com/usrfiles/cp/Policy_Handbook.pdf.

²⁴⁹ Minot Public Library (accessed on June 16, 2023), Library Internet Guidelines. Accessed at: https://www.minotlibrary.org/wp-content/uploads/2021/07/Internet-Guidelines_2021_FINAL.pdf.

²⁵⁰ Morton Mandan Public Library (accessed on June 16, 2023), Policy Manual. Accessed at: [https://www.cityofmandan.com/vertical/sites/%7B38C3EFDC-F4D8-4D02-9E13-0987A081A7A4%7D/uploads/MMPL_Policy_Manual_2018\(1\).pdf](https://www.cityofmandan.com/vertical/sites/%7B38C3EFDC-F4D8-4D02-9E13-0987A081A7A4%7D/uploads/MMPL_Policy_Manual_2018(1).pdf).

²⁵¹ Mott Public Library (accessed on June 16, 2023), Our Services. Accessed at: <https://mottndlibrary.com/our-services/>.

²⁵² New Town City Library (accessed on June 16, 2023), About. Accessed at: <https://newtownndlibrary.com/about-2/>.

²⁵³ Oakes Public Library & School (accessed on June 16, 2023), Public Library. Accessed at: <https://oakesnd.com/library>.

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| Public computer and wi-fi access at Parshall Public Library ²⁵⁴ | X | | | | | | | | | X |
| Public computer and wi-fi access at Tioga Community Library ²⁵⁵ | X | | | | | | | | | X |
| Public computer access at Turtle Lake Public Library ²⁵⁶ | X | | | | | | | | | X |
| Public computer and wi-fi access at Underwood Public Library ²⁵⁷ | X | | | | | | | | | X |
| Public computer and wi-fi access at Valley City Barnes County Public Library ²⁵⁸ | X | | | | | | | | | X |
| Public computer access at Walhalla Public Library ²⁵⁹ | X | | | | | | | | | X |
| Public computer and wi-fi access at Ward County Public Library ²⁶⁰ | X | | | | | | | | | |
| Public computer and wi-fi access at Washburn Public Library ²⁶¹ | X | | | | | | | | | X |
| Public computer and wi-fi access at West Fargo Public Library ²⁶² | X | | | | | | | | | |
| Bismarck State College Library (public access to computers for internet and email) ²⁶³ | X | | | | | | | | | |
| Chester Fritz Library, University of North Dakota (public access to the library's computer lab and the library's wireless network) ²⁶⁴ | X | | | | | | | | | |

²⁵⁴ Parshall Public Library (accessed on June 16, 2023), Parshall Public Library. Accessed at: <https://parshallndlibrary.com/>.

²⁵⁵ Tioga Community Library (accessed on June 16, 2023), Internet Access Policy. Accessed at: <https://tiogandlibrary.org/internet-access-policy/>.

²⁵⁶ Turtle Lake Public Library (accessed on June 16, 2023), TLPL Policies. Accessed at: <https://turtelakendlibrary.com/tipl-policies/>.

²⁵⁷ Underwood Public Library (accessed on June 16, 2023), Underwood Public Library. Accessed at: www.underwoodnd.org/city.

²⁵⁸ Valley City Barnes County Public Library (accessed on June 16, 2023), Internet Access and Computer Use Policy. Accessed at: https://vcblibrary.org/file_download/inline/d8367ddc-d33a-4396-a0ab-218d0edf61c0.

²⁵⁹ Walhalla Public Library (accessed on June 16, 2023), Walhalla Public Library. Accessed at: <https://walhallandlibrary.com/>.

²⁶⁰ Ward County (accessed on June 16, 2023), Library. Accessed at: <https://www.co.ward.nd.us/161/Library>.

²⁶¹ Washburn Public Library (accessed on June 16, 2023), Washburn Public Library. Accessed at: <https://washburnndlibrary.com/>.

²⁶² West Fargo Public Library (accessed on June 16, 2023), Equipment. Accessed at: <https://westfargolibrary.org/765/Equipment>.

²⁶³ Bismarck State College, North Dakota's Polytechnic Institution (accessed on May 9, 2023), Library. Accessed at: <https://bismarckstate.edu/community/communitysub/library/#:~:text=Visitors%20can%20use%20public%20computers,access%20to%20all%20state%20libraries>.

²⁶⁴ University of North Dakota (accessed on May 9, 2023), Computer and Network Access. Accessed at: <https://library.und.edu/services/computers-network-access.html>.

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| North Dakota Supreme Court Law Library (public access to its computers for legal research purposes) ²⁶⁵ | X | | | | | | | |
| North Dakota Assistive Technology For All (ND Assistive’s equipment database for short- and long-term loans for assistive technology, including computers; ND Assistive also provides use of the database at no charge to individuals and non-profit, state, and school-based organizations to host their assistive technology inventories) ²⁶⁶ | X | X | | X | | | | |
| Laptops and tablets with hotspots available for checkout at Grand Forks Public Library ²⁶⁷ | X | | | | | | | |
| Public iPads available for checkout at Leach Public Library ²⁶⁸ | X | | | | | | | X |
| Children’s tablets, iPads, and mobile wi-fi hotspots available for checkout at West Fargo Public Library ²⁶⁹ | X | | | | | | | |
| Tablets available free to charge to residents of North Dakota correctional facilities ²⁷⁰ | | | X | | | | | |
| Free iPads for telehealth services for veterans ²⁷¹ | | | | | X | | | |

²⁶⁵ North Dakota Supreme Court Law Library (accessed on May 5, 2023), Public Access Computer Use. Accessed at: <https://www.ndcourts.gov/Media/Default/Legal%20Resources/law-library/NDSCLL%20Computer%20Use.pdf>.

²⁶⁶ ND Assistive (accessed on May 16, 2023), WELCOME TO North Dakota ASSISTIVE TECHNOLOGY FOR ALL!. Accessed at: <https://nd.at4all.com/>.

²⁶⁷ Grand Forks Public Library (accessed on May 16, 2023), Computer Services. Accessed at: <https://www.gflibrary.com/95/Computer-Services>.

²⁶⁸ Leach Public Library (accessed on June 16, 2023), Services. Accessed at: <http://www.leachlibrarywahpeton.org/services.html>.

²⁶⁹ West Fargo Public Library (accessed on May 16, 2023), Equipment. Accessed at: <https://www.westfargond.gov/765/Equipment#2a>.

²⁷⁰ Stakeholder Interview. May 15, 2023.

²⁷¹ Stakeholder Interview. May 18, 2023.